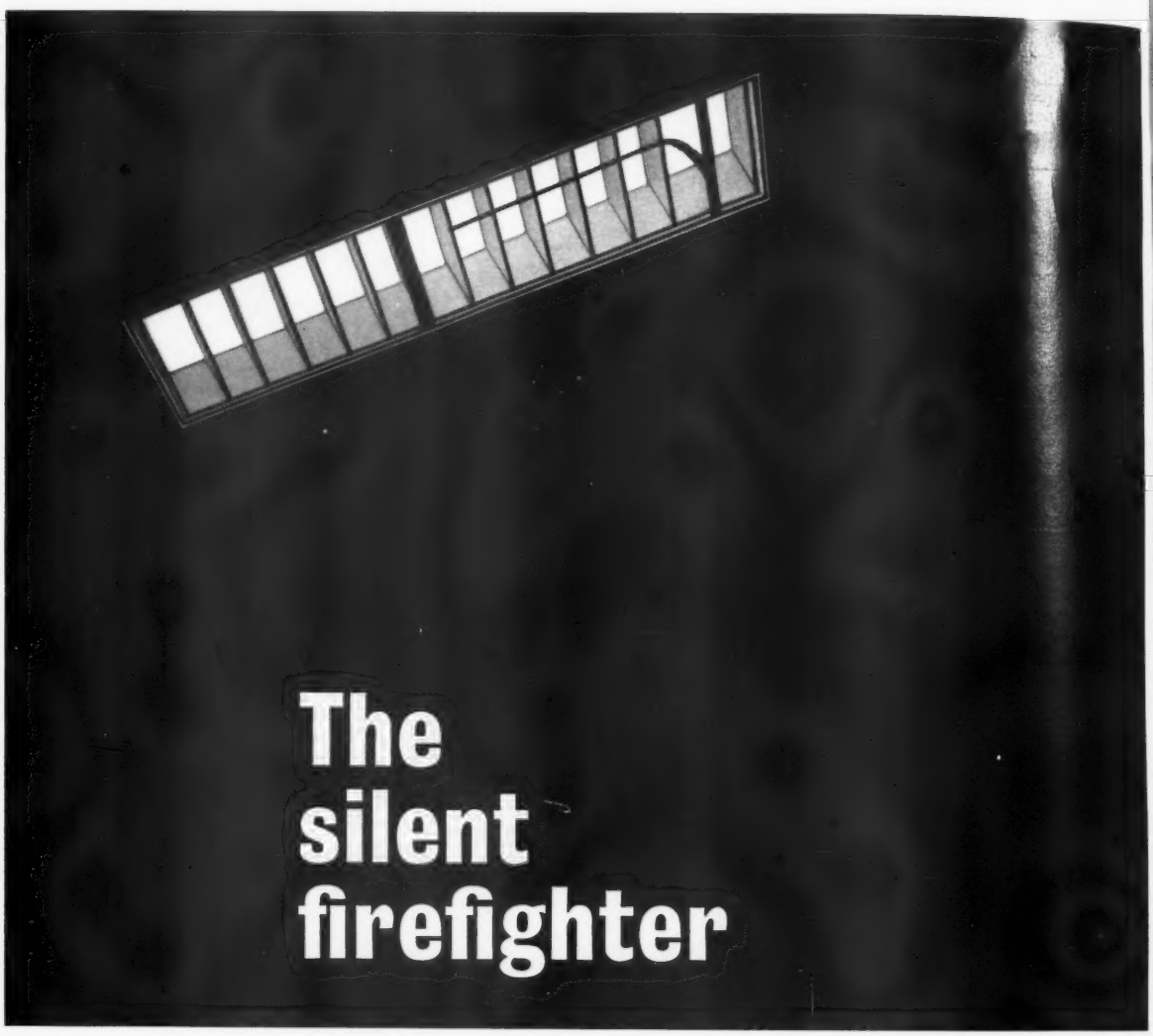
# RIBA JOURNAL



# The silent firefighter

## This fire ventilator saved a plant worth £3,500,000

*It could well save yours*

As any fire chief will tell you, fire in an unventilated area quickly produces choking, superheated smoke and fumes—conditions which keep firefighters out of the building and make effective firefighting virtually impossible. Perforation of the roof is the only remedy, but this is a hazardous operation which often endangers the life of the fireman.

The Colt Dual Purpose Ventilator has a special device that's acutely sensitive to heat. It opens *automatically* at a pre-determined temperature, releasing smoke, heat and fumes, keeping the fire localised. Firemen can enter the building, find the seat of the fire and extinguish it—with minimum damage to plant and equipment.

Colt dual-purpose ventilators have the added advantage that under manual control they can be used for normal plant ventilation and provide excellent day-to-day working conditions.

Widespread adoption by industry is proof of managerial faith in the silent firefighter.

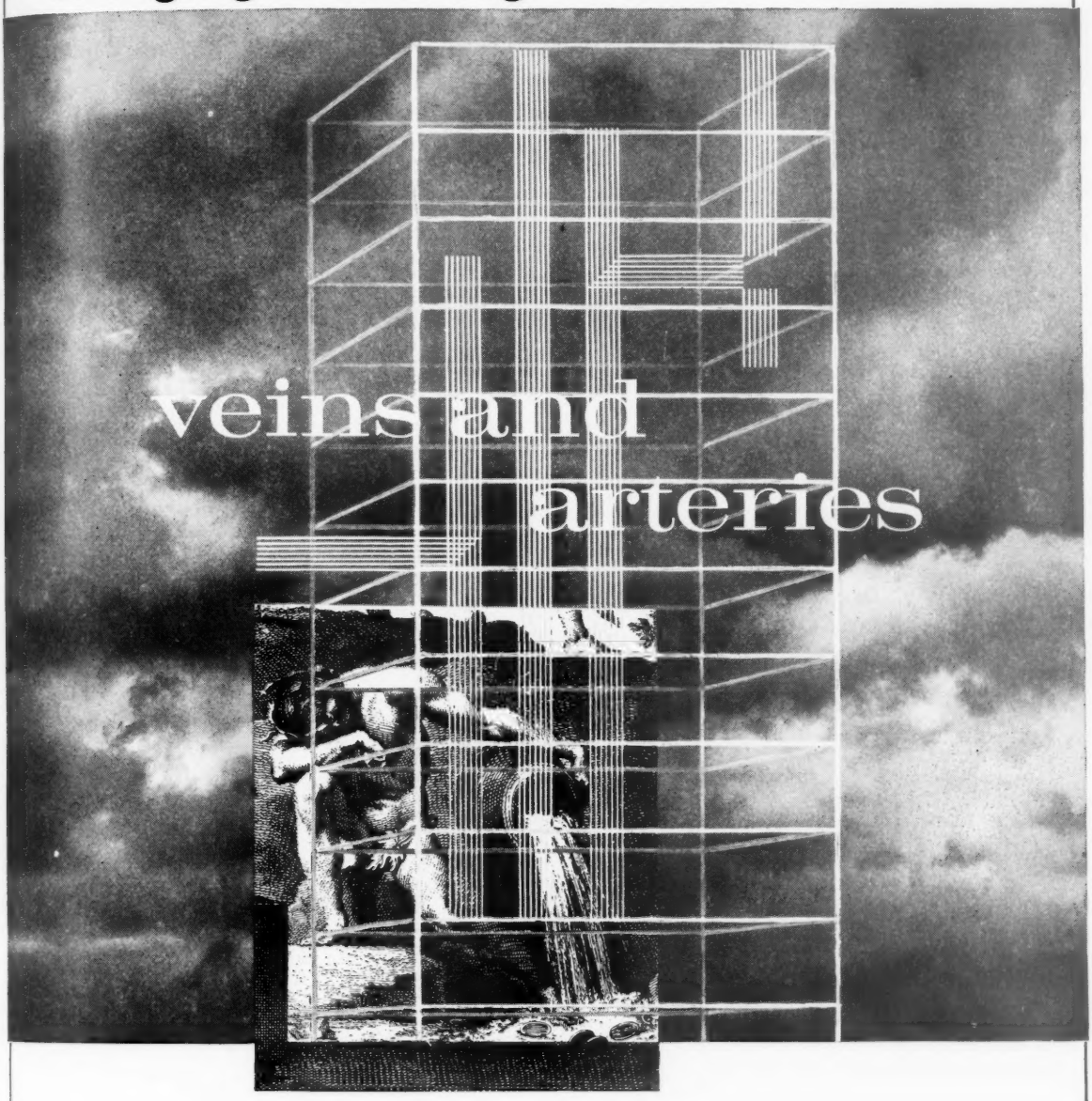
**COLT** ***Dual-Purpose* Ventilators**

*Automatic Fire protection — day-to-day controlled ventilation*

*FOR INFORMATION WRITE TO DEPT. 89:* COLT VENTILATION LIMITED, SURBITON, SURREY. ELMBRIDGE 0161

**VISIT OUR STAND D.46 AT THE FACTORY EQUIPMENT EXHIBITION**

# Bringing a building to life




Take a look under the skin of that new building—there they are. Pipes, ducts, conduits and cables bringing water, gas, compressed air, power, all the vital supplies that make a building into a functioning organism. The veins and arteries, or more prosaically, the engineering services.

The design of this intricate network begins with the building on the drawing board. Erection and installation proceed as the building grows, at the pre-arranged pace.

It's a problem of design, teamwork and timing, needing organization and experience. In fact, if it's a big job, it's more than likely that the whole thing was left in the hands of Haden — capable hands, thoroughly versed in the problems of bringing a building to life.

# HADEN

**Heating, Air Conditioning**
**Piping and**
**Sanitary Engineers**

**G. N. HADEN & SONS LTD.,** 7/12 Tavistock Square, London W.C.1
*and branches throughout the United Kingdom & overseas*

TA2977

*Old Change House in the City, built for the Bernard Sunley Investment Trust Ltd., incorporates 'Continental' aluminium windows made by* THE CRITTALL MANUFACTURING CO. LTD. *Architect: Theo. H. Birks,* F.R.I.B.A.

# TOMORROW'S **WINDOWS**

## *—already taking shape with*

# ALCAN ALUMINIUM

The windows of today and tomorrow made of ALCAN aluminium are better than ever before. In their natural clean finish, or colourfully anodized, they will present no problem of rust and lessen the cost of maintenance.

ALCAN
ALUMINIUM LIMITED OF CANADA

## To the architect and designer

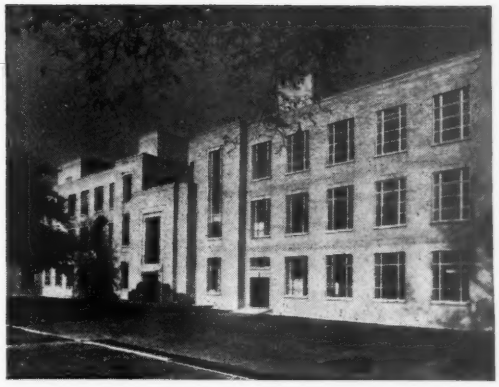
ALCAN aluminium means:

- *Freedom to design outside the limitations of traditional raw materials*
- *One-piece hollow extruded sections made to intricately designed shapes never possible before*
- *Windows opening up new horizons in planning and design but right down-to-earth in sheer practicality*

## To the building owner or occupier

ALCAN aluminium means:

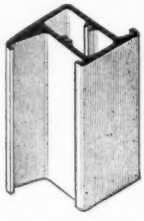
- *No painting necessary*
- *No rusting*
- *Resistance to decay and corrosion*
- *No warping*
- *No needless weight—windows that are* always *easy to open*
- *Reduced maintenance cost throughout the life of the building*



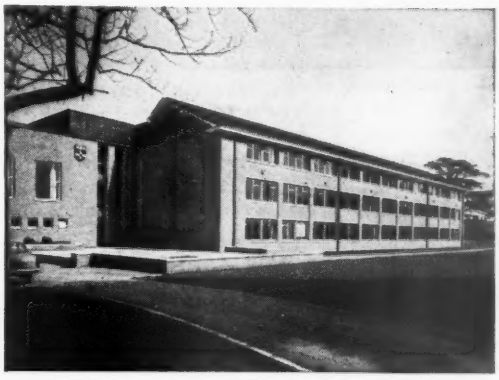
*This view of the new Physiology Building, Oxford University, clearly shows the* CRITTALL *purpose-made aluminium windows. Architects: Lanchester & Lodge.*

CRITTALL *aluminium windows and doors were used in the new Glostrup Hospital, Copenhagen. Architects: Martta Ypyä, Ragnar Ypyä & Weikko Malmio.*

The advantages of aluminium are at their greatest with ALCAN aluminium. ALCAN, one of the world's largest producers, are specialists in the ingot field. To manufacturers, ALCAN specialization means a constant, reliable source of aluminium in alloy forms exactly — *consistently* — suited to precise needs. To architects and designers ALCAN specialization makes available a vast store of technical knowledge and experience ready to be applied to any project, backed up by years of fabricating technique. To the user of every aluminium product ALCAN specialization means a certainty of quality and the best value that money can buy.



*A typical example of an extrusion for aluminium windows*



*Purpose-made aluminium casements by* THE CRITTALL MANUFACTURING CO. LTD. *were incorporated in the new Faculty of Letters Building, Reading University. Architects: Easton & Robertson.*

**ALCAN (U.K.) LIMITED** · Aluminium Canada House · 30 Berkeley Square · London W1

Wenlock Barn Estate, Shoreditch, London, E.1.
*Designed by:* J. L. Sharrett, O.B.E., A.M.I.C.E., Borough Engineer.
*Main Contractor:*
H. Richardson & Sons Ltd.
*Plastering Contractor:*
MacDonnell Bros.

# 'MURILITE'

## Pre-mixed Perlite Plaster

is today finding an ever-increasing use in building projects at home and overseas.

Light in weight, it is easy to work and makes a considerable reduction in the all-round "dead load", thus affording an important saving in the cost of the main structure.

"MURILITE" is pre-mixed at our Works and no sand whatever is required as an additive on the Site. It has high properties of fire resistance and provides improved thermal insulation which reduces heat loss through walls and ceilings, minimizes condensation and lessens the risk of pattern staining.

Gypsum based, "MURILITE" is free from shrinkage cracks and the Bonding Coat grade—which incorporates Vermiculite as the aggregate—adheres excellently to concrete. "MURILITE" Plaster contains no ingredients harmful to decoration and may be safely decorated as soon as it is dry.

We should like to tell you more about "MURILITE"—or offer expert advice on any of your plastering problems.

**CAFFERATA & CO. LTD.**

NEWARK · NOTTS · TEL: NEWARK 2060 GRAMS: CAFFERATA NEWARK

Gypsum Plaster and Cement

*the importance of*

# ANDEK *roofing . . .*

Regent Axle Co. Ltd., Burnley.
Architects: Houston and Forbes, F.R.I.C.S. A.R.I.B.A.

**. . . to this building is —**

- A firm and solid roof giving flexibility in design.
- Good standard of fire resistance.
- High degree of insulation - continuous over supports - to prevent heat losses and to minimise condensation. U=0.21.
- Attractive soffit - good acoustic value from open texture wood wool.
- Spans up to 15 feet.

**D. ANDERSON & SON LIMITED**

STRETFORD, MANCHESTER Telephone: LONgford 4444
OLD FORD, LONDON, E.3 Telephone: AMHerst 9381

JN/A.88

**DIFFICULTIES CAN BE OVERCOME.** It's all a question of know-how. The Reinforced Concrete Design Group of Expanded Metal specialise in the know-how of problem resolution in reinforced concrete. They do this on a responsible, independent, professional basis. They are at the service of Architects and Engineers at every stage of construction from the initial planning to the formal opening. If you would like to know more about RCDG and how they can help you, write today for further details.

## REINFORCED CONCRETE DESIGN GROUP

An independent professional service for you

THE EXPANDED METAL CO. LTD., 16, CAXTON STREET, LONDON, S.W.1. Telephone ABBey 7766

Expamet

# Stelvetite – plastic bonded to steel – has put a new face on Luxfer Partitioning

*New London Central Buying Offices of Lewis's Ltd., 40 Duke Street, W 1.*

**SOMETHING NEW IN STEEL** Until recently steel always needed periodic repainting. But not any more. Stelvetite even arrives with a finished surface in the colour you choose. *A surface finish which lasts for ever.* Stelvetite's permanent P.V.C. surface resists scratches, acids, detergents and time. Thus, depending on the size of the job, Stelvetite can save a small fortune or a large one when a surfacing problem arises because, with all its beauty . . . **Stelvetite can be worked and welded as steel!** It is used to fabricate, among other things, lifts and doors, partitioning, panelling, furniture, kitchen equipment, walls and cladding . . . all of them colourful and permanent. There's a wide range of plain or embossed finishes, a wide range of colours and a vast range of uses. **Investigate Stelvetite.**

*All enquiries about Luxfer Partitioning should be made to Luxfer Limited, Waxlow Road, London, N.W.10.*

Stelvetite

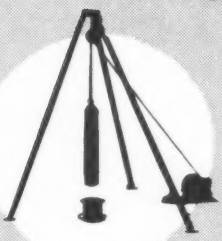
Plastic bonded to Steel

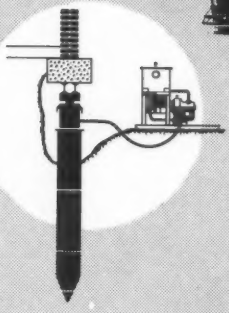
**Accepted by the Council of Industrial Design for "Design Index."*

**STELVETITE***—made in co-operation with BX Plastics Ltd—
**by John Summers & Sons Ltd.**
who produce over 52,000 miles of sheet steel every year.
Write to us at Dept. JR, Shotton, Chester, for full information.

Driven cast insitu piles

Bored piles





Miga piles

Augered piles

Light tube piles

Composite piles

Large diameter bored piles

Reinforced concrete foundations

*A new brochure fully describing 7 methods of Piling is available on request*

*FRANKI—the largest piling organisation in the world*

**FRANKIPILE**

FRANKIPILE LIMITED · 39 VICTORIA STREET · LONDON SW1 · TELEPHONE ABBEY 6006-9

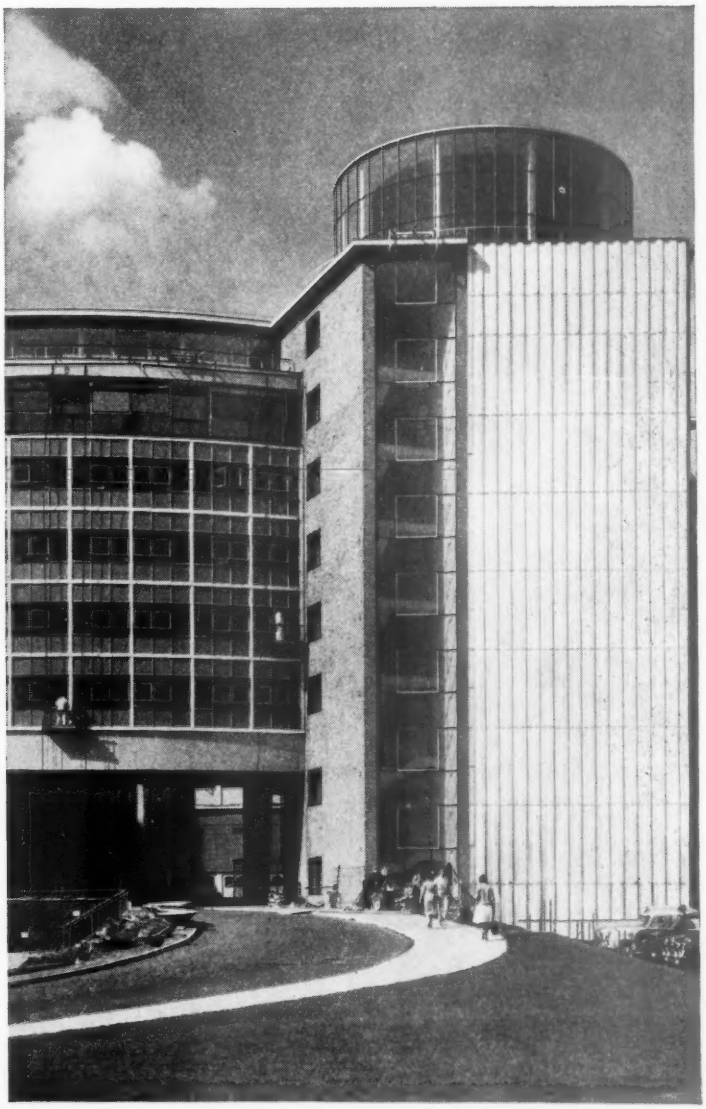
# "TURNALL" ASBESTOS - CEMENT
REGD. TRADE MARK

# CLADDING TILES

## for the new B.B.C. Television Centre

TAC

*Architects :*
*Graham Dawbarn Esq., C.B.E.*
*(Norman and Dawbarn)*
*in association with*
*M.T. Tudsbery Esq., C.B.E.*
*Consulting Civil Engineer*
*to the B.B.C.*



**"TURNALL" Asbestos-Cement Cladding Tiles cover an area of approximately 100 ft. by 30 ft. which forms part of the temporary end of this fine new building at Shepherds Bush, London W.12**

**The following products manufactured by Turners Asbestos Cement Co. Ltd. have also been supplied:**

"EVERITE" Asbestos-Cement Flat Roofing Tiles, fixed by Limmer & Trinidad Lake Asphalt Co. Ltd.

Sprayed "LIMPET" Asbestos to give 4 hours' fire resistance to steel trusses in seven studios (Higgs and Hill Ltd., main contractors).

"TURNALL" Asbestos-Cement Liners for forming air ducts, and a considerable quantity of short lengths of "EVERITE" Asbestos-Cement Pipes which were cast in the floors to form openings for cables and other services.

**TURNERS ASBESTOS CEMENT CO. LTD.**

A MEMBER OF THE **TURNER & NEWALL** ORGANISATION

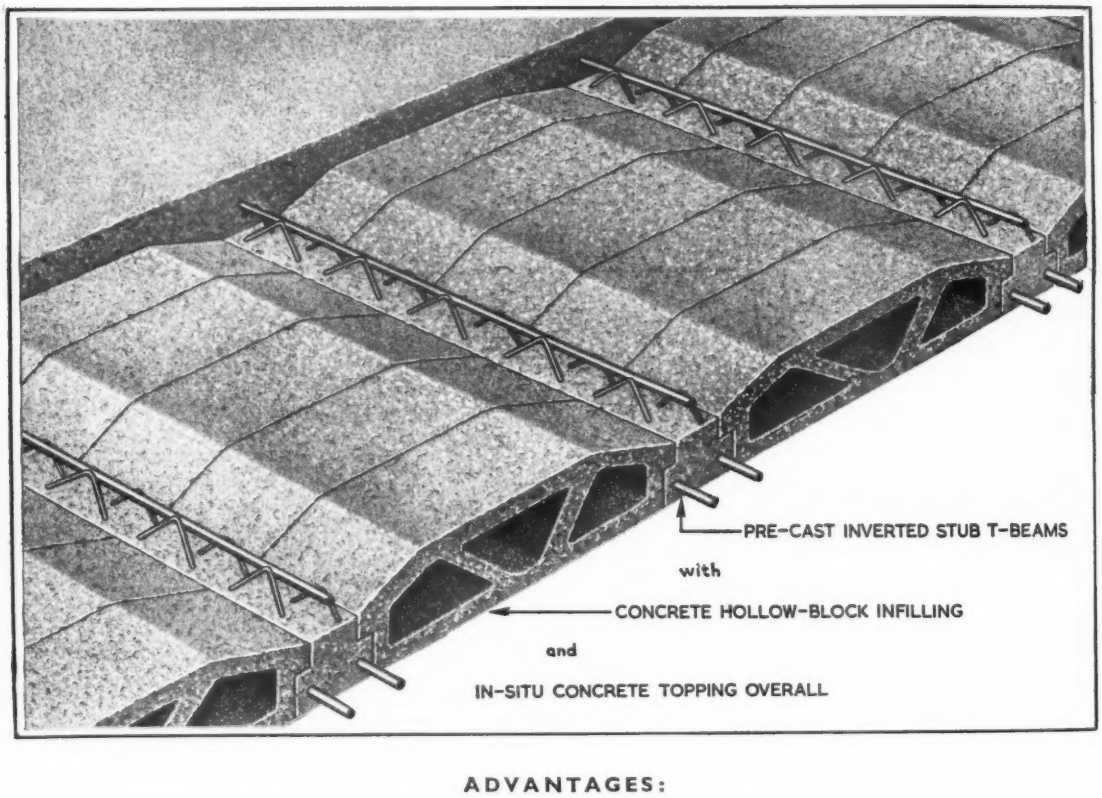
TRAFFORD PARK · MANCHESTER 17 · Tel: TRAfford Park 2181 · LONDON Tel: WATerloo 4712

and at BIRMINGHAM · BRISTOL · CARDIFF AND GLASGOW

653

# THE TRIAD FLOOR

**of light weight, simply and quickly erected, and combining the best features of in-situ and pre-cast concrete construction**




**ADVANTAGES:**

1. No shuttering; minimum of temporary propping; ample room below for following trades.
2. The in-situ concrete topping ensures a more homogeneous slab than one composed solely of pre-cast units, better able to distribute imposed loading, and so avoiding the possibility of cracking in floor and ceiling finishes due to differential deflection in individual units.
3. A slight increase in the thickness of concrete topping provides for embedding conduits, etc., without the addition of a separate screeding for that specific purpose.
4. The uniform concrete soffit provides an ideal key for plaster.
5. If required, T-beams and hollow-blocks can be supplied for erection by the General Contractor.

*Fully detailed literature forwarded on request:* **THE KLEINE COMPANY LIMITED, 9-13 GEORGE STREET, MANCHESTER SQUARE, LONDON, W.1 :: Telephone: Welbeck 9131**

# It pays you and your clients to put in *solid fuel* central heating

**Lowest running costs.** The big news in central heating these days is the amazing cheapness of the solid fuel systems. For example, the average weekly running cost for a two- or three-radiator system can be as little as 9/9d! Just compare that with oil, gas and electricity —see chart on right.

**Lower installation costs.** Compared with oil, solid fuel systems are much cheaper to buy and install. The new solid fuel boilers are really streamlined and require very little attention. They are thermostatically controlled and finished in gleaming vitreous enamel in a range of modern colours.

*N.C.B. Housewarming Plan—offers a personal loan to cover the cost of a central heating installation. Low interest—five years to pay—tax relief.*

**Lowest maintenance costs.** Solid fuel systems cost practically nothing to maintain. But with other fuels, skilled maintenance is necessary and this can cost from £5 to £15 per year—another 2/- to 6/- a week on the running cost.

**Compare the costs.** These are typical weekly costs, averaged over the year, for centrally heating a three-bedroomed house or bungalow—and hot water summer and winter. Look how much cheaper solid fuel is.

| | 6 or 7 radiators and hot water ▼ | 2 or 3 radiators and hot water ▼ | |
|---|---|---|---|
| **COKE** in independent boiler | 9/- per cwt | 9/9d | 15/- |
| **SMALL ANTHRACITE** in gravity feed boiler | 12/- per cwt | — | 14/1d |
| **GAS** | 1/4d therm plus, say, 2/8d a week standing charge | 16/1d | 23/6d |
| **ELECTRICITY** | 1d unit (No standing charge included) | 18/2d | 29/10d |
| **OIL** | 1/5¼d gallon | *12/10d | *22/8d |

* *plus 2/- to 6/- a week maintenance cost.*

**Write for FREE booklet** on Central Heating and list of other technical publications to the Coal Utilisation Council, 3 Upper Belgrave Street, London, SW1. Also available 'Central Heating for Houses', a complete 120-page illustrated survey of all the various systems available, from the open-fire-and-back-boiler to the small pipe system. Copies 2/6d each.

The cheapest central heating there is – SOLID FUEL

ISSUED BY THE COAL UTILISATION COUNCIL

FOR PERFECT
DOOR CONTROL

Nº 444

THE
Britannic
FLOOR SPRING

The "Britannic" is of very sturdy construction and designed to control doors weighing up to 250 lbs. It allows the doors to be pushed open through an angle of 90° both ways. Exposed parts finished in polished brass or B.M.A. chromium plated.

William Newman & Sons Ltd.

SEE OUR EXHIBITION AT THE BUILDING CENTRE, 26, STORE ST., W.C.1.

HOSPITAL STREET, BIRMINGHAM, 19

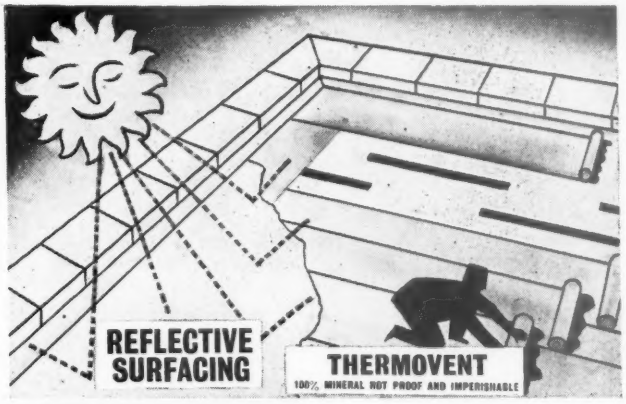
*Established over 200 years*

# The THERMOVENT system of roof ventilation . . .

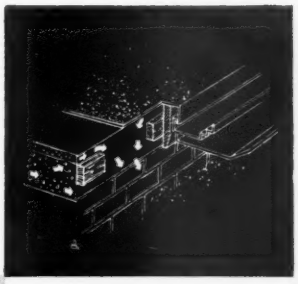
. . . a technique designed to protect the weather-proofing of flat roof structures against influences arising from:-

* **Moisture and air in insulation** * **Heat build-up on insulation**
* **Water in lightweight concrete** * **Roof movement**

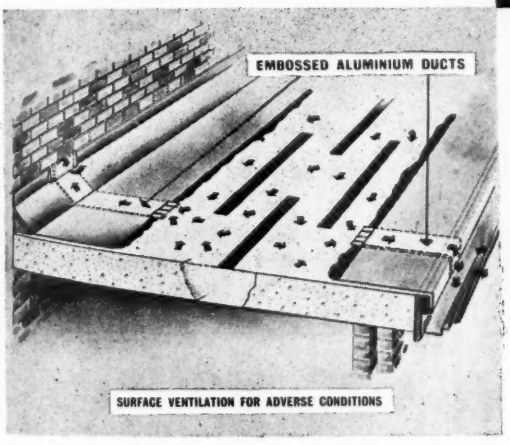
Thermovent is laid by the isolated system combining frame bonding and anchor strips to permit free vapour dispersal. The waterproofing is finished with a heavy stone surfacing to secure maximum reflectivity.



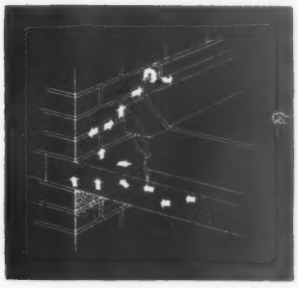

Where conditions are adverse surface ventilation is provided and metal ducts are fixed to relieve pressure to the outside air.



Drying in depth for extreme conditions is arranged at planning stage.



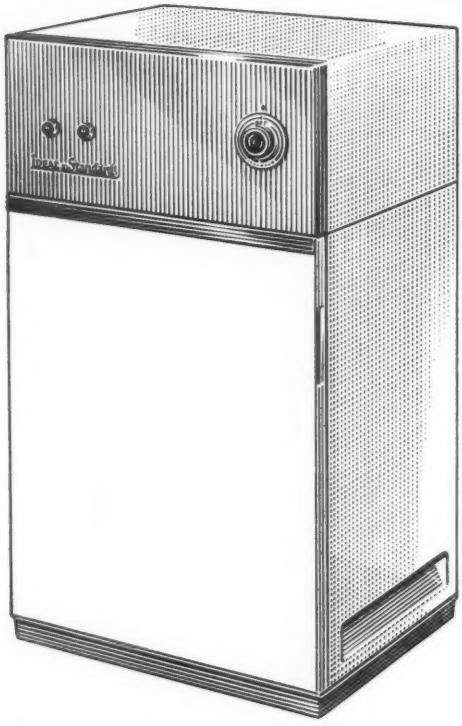

Typical detail is shown but others are available to suit design and advice will be given on request.



## D. ANDERSON & SON LTD

STRETFORD, MANCHESTER Telephone : Longford 4444
OLD FORD, LONDON, E.3. Telephone : Amherst 9381

# with the exclusive 'Flamaster' automatic ignition control



**for the average home** The Ideal Kingston Gas Boiler gives fully automatic heating and/or hot water supply in the small to medium sized home. There is a choice of sizes, from 25,000 B.T.U./hr, at very competitive prices.

**fully automatic** The 'Flamaster' automatic ignition control gives on/off control from a remote switch (no pilot to light) and complete safety (if gas or electricity supply fails the boiler shuts off and, when supplies are restored, it relights automatically).

**small bore heating** The Kingston can be supplied with an Ideal-Hotflow accelerator fitted inside the jacket.

**domestic hot water supply** The Kingston can be used with a direct cylinder to give domestic hot water supply, as the waterways are accessible for cleaning.

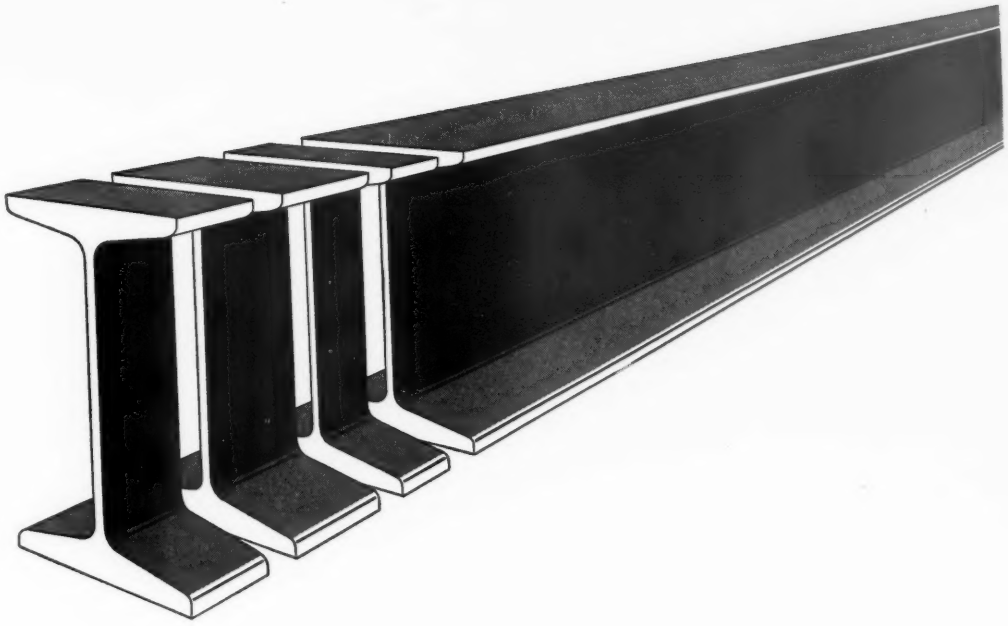
**delivered fully assembled** The Kingston is dispatched fully assembled, bolted to a wooden base and wrapped in a protective envelope of polythene.

## IDEAL Kingston Gas Boilers

497

IDEAL BOILERS & RADIATORS LTD · IDEAL WORKS · HULL

*Visit our Stand No. 29 at the Building Trades Exhibition, Manchester, October 11th–22nd*



# ...successive cuts in costs

Reductions in the cost of steelwork have recently been made possible by the availability of sections of increased structural efficiency, and new methods of design and fabrication have made further economies possible.

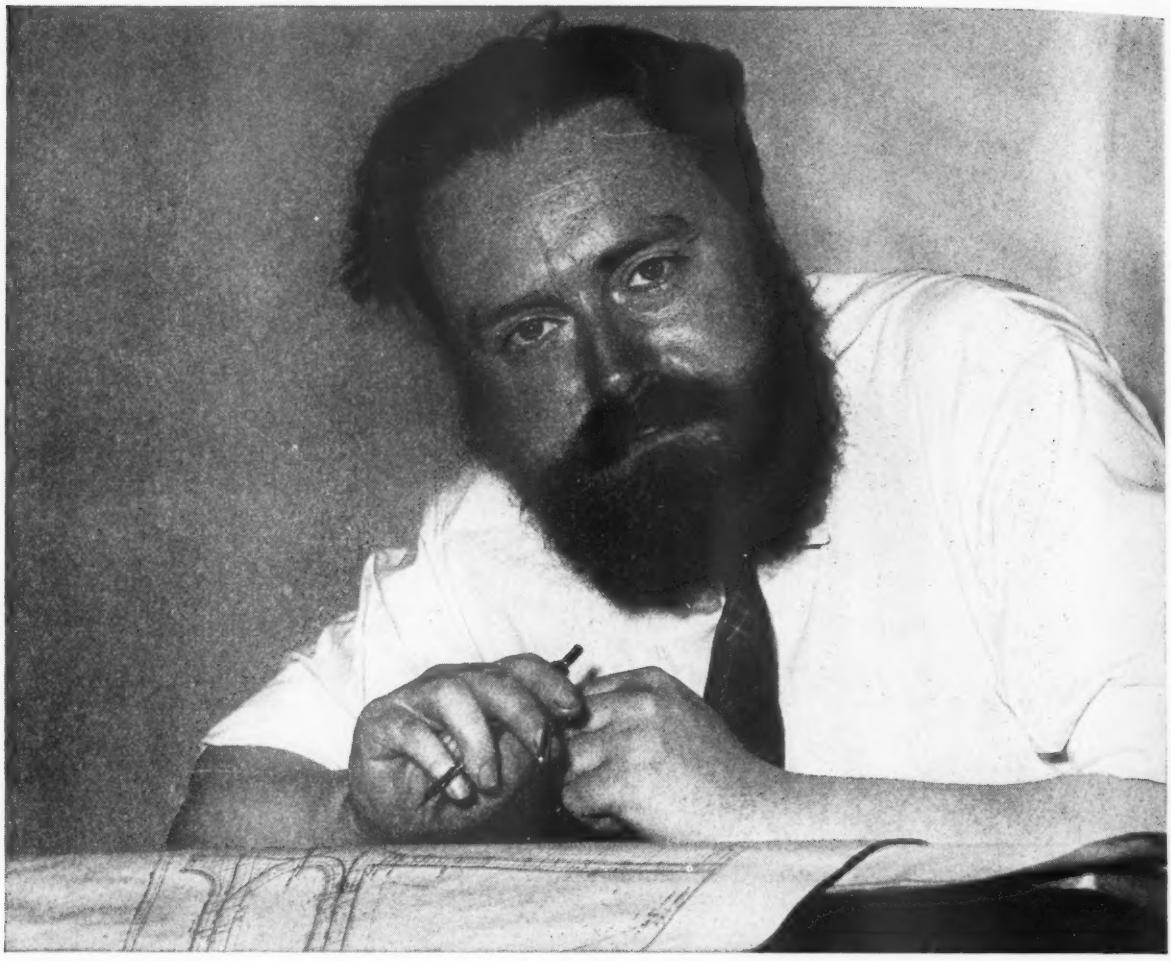
*The adoption of higher working stresses has brought a further reduction in steel and labour, with corresponding reduction in cost.*

And that is not all. The cost of steel per ton is now lower. So the cost of steel-framed buildings goes down and down.

STEELWORK SUITS EVERY TYPE OF BUILDING AND IS EASILY ALTERED OR ADAPTED

B·C·S·A

BRITISH CONSTRUCTIONAL STEELWORK ASSOCIATION, WESTMINSTER, LONDON, S.W.1



# Who approves pitch fibre pipe?

The R.I.B.A. does, and so do other professional bodies and local authorities throughout the country. And, of course, they are all made to BS 2760. But the warmest approval comes from the architect and builder on site who find that their problems of time and cost have been reduced by standardising on pitch fibre.

**SEVEN reasons why pitch fibre cuts your costs**

- Laying, testing and backfilling are simple and swift — rates up to 500 ft. an hour can be achieved with semi-skilled labour.
- Corrosion, root penetration, water infiltration and cracking through settlement are all eliminated.
- Schedules can be maintained regardless of weather conditions.
- Pitch fibre pipes are light, non-brittle and precision made to BS 2760.
- Wastage caused by breakages on site is drastically reduced.
- Concrete haunching and cement joints are unnecessary.
- Improved hydraulic flow makes flatter gradients possible.

***SEND NOW for your free copy of the Pitch Fibre Pipe Manual***

**PITCH FIBRE PIPE ASSOCIATION OF GREAT BRITAIN**

27 Chancery Lane, London WC2

*Please send me your manual 'Pitch Fibre Pipes'.*

NAME _____

POSITION _____

ORGANISATION _____

ADDRESS _____

_____

114

## *Pitch Fibre Pipes*

ISSUED BY THE PITCH FIBRE PIPE ASSOCIATION OF GREAT BRITAIN

PFPA

27 Chancery Lane, London WC2. Telephone: CHAncery 6001

THE KEY ENGINEERING CO LTD · TEMPLE TUBES LTD · UNION FIBRE PIPES (GREAT BRITAIN) LTD · FLEXPIPE LTD

TGA PA64

# The architect and contractor listen to the specialist's proposals

**BISON** floors, beams and concrete frame structures

SPEED & STRENGTH

**CONCRETE LIMITED are the largest structural precast concrete specialists in the world**

CONCRETE (SOUTHERN) LIMITED Green Lane, Hounslow, Middlesex *Hounslow 2323* London Sales Office: 16 Northumberland Avenue, W.C.2 *Whitehall 5504*
CONCRETE (MIDLANDS) LIMITED Dovehouse Fields, Lichfield, Staffs. *Lichfield 3555* Birmingham Sales Office: Winchester House, 5 Victoria Square, Birmingham, 2 *Midland 0331*
CONCRETE (NORTHERN) LIMITED Stourton, Leeds 10 *Leeds 73211* Manchester Sales Office: 40 King Street West, Manchester 3 *Blackfriars 5676*
CONCRETE (SCOTLAND) LIMITED Etna Road, Falkirk *Falkirk 2366* Glasgow Sales Office: Elmbank Street, Glasgow C.2 *City 3292*

60/5

# *the customer comes first . . .*

**In a "Pyrotenax" wired store, thought for the customer is shown to go a long way beyond what can be seen at the counters. First and foremost, "Pyrotenax" is inherently safe. Then it has all the qualities listed below. Small wonder that "Pyrotenax" has been the considered choice of progressive architects, electrical contractors, owners and industrialists for over twenty years. It is the M.I.C.C. cable with long experience behind it. It is the cable for lasting confidence.**

PERFECTED BY EXPERIENCE

**Pyrotenax**

m.i. COPPER COVERED CABLE

***non-fire causing—heat resisting—moisture-proof—non-ageing—rust-proof—safe against overload—resistant to mechanical maltreatment—resistant to noise transmission—***

## *there is no substitute for experience*

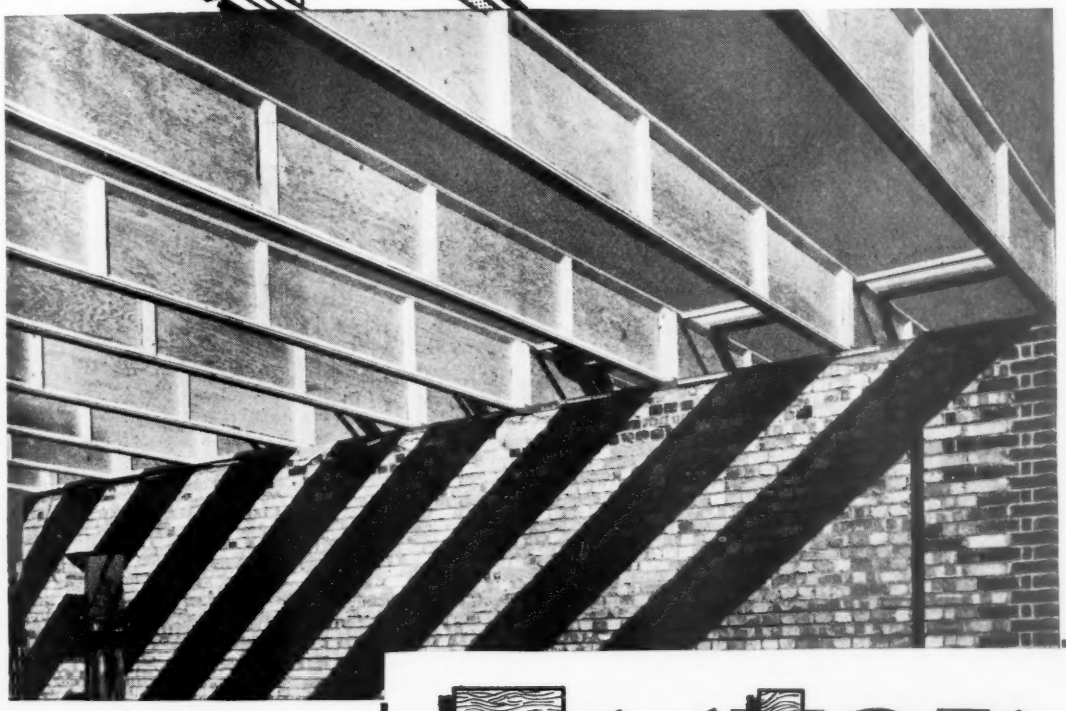
**PYROTENAX LIMITED** · HEBBURN-ON-TYNE · Telephone: Hebburn 83-2244/8

**LONDON:** *VICtoria 3745* · **BIRMINGHAM:** *Midland 1265* · **MANCHESTER:** *Deansgate 3346/7* · **LEEDS:** *Leeds 27826* · **GLASGOW:** *City 3641/2* · **CARDIFF:** *Cardiff 23689*

GD 136

# Standard **TIMBER** COMPONENTS

**for flat and pitched roofs**
**save time, trouble and cost in**
**Design and Construction**



ARCHITECTS: *D. Plaskett Marshall, F.R.I.B.A., Chartered Architects, 59 Gordon Square, W.C.1.*

CONTRACTORS: *W. J. Cearns Limited Carpenters Road, Stratford, London, E.15.*

You can choose the exact components for your roofing purpose from the TECTON range of engineered timber beams, purlins, decking and roof units. Roof design becomes simpler . . . construction is faster, easier, cheaper.

All components are delivered to the site fully finished, ready for use, quick to fix. They are strong and rigid, but easy to handle.

★ Find out more about this radically new system.

Tecton

*Manufactured by the Timber Engineering Division of Dexion Limited*

**POST TODAY** for literature

**Name**.....

**Company**.....

**Address**.....

.....

**MAYGROVE ROAD · LONDON NW6 · MAIda Vale 6031**

*For top quality and 10% saving*

MAC FISHERIES *specify Merthyrware*

*Mac Fisheries Ltd. have found that Merthyrware Tiles provide the right kind of flooring to stand up to heavy traffic. The shale from which Merthyrware Tiles are made is the finest in the country and because our factory is situated on the site of this raw material, we can produce a tile of superior quality at a more economical price.*

# MERTHYRWARE

## *Modern Ceramic Floor Tiles*

These hardwearing, real ceramic tiles are unbeatable for their long-lasting qualities and consistent size and colour. Merthyrware Tiles are produced in one of the most modern, best-equipped factories in the country. They are universally accepted, and are particularly suitable for use in shops, offices, factories, schools and municipal buildings everywhere.

**SPECIFY MERTHYRWARE FOR:—**

**SUPERIOR STRENGTH—up to 10 tons per sq. inch.**
**CLEAR, FAULTLESS COLOURS—Red and Mingles.**
**STANDARD SHAPE AND CONSISTENT SIZE.**
**RESISTANCE to heat, moisture absorption, acids, grease and fire.**
**REAL ECONOMY—Merthyrware cost less than any comparable tiles**
**Outstanding for accurate size and consistent colour.**
**CERAMIC CILL TILES—Fit ALL cills.**

**MERTHYRWARE TILES** *never wear out!*

*SWIFT DELIVERY—24 HOUR SERVICE—WRITE OR 'PHONE*

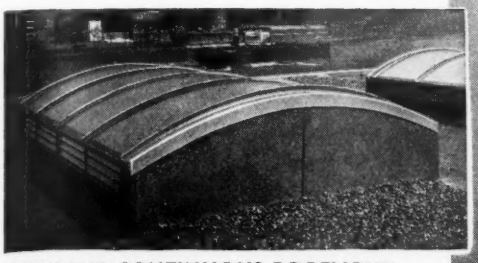
**MERTHYRWARE LTD. CARKER'S LANE, LONDON, N.W.5. TELEPHONE: GULLIVER 8761 (10 LINES)**

FACTORY: HEOLGERRIG, MERTHYR TYDFIL, GLAMORGAN. TELEPHONE: MERTHYR TYDFIL 2793

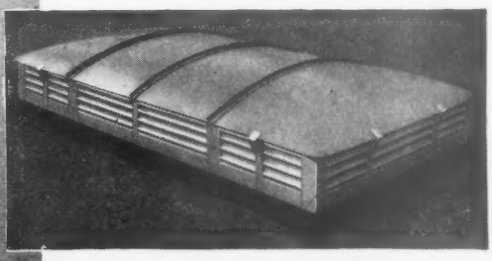
# Ventilation *plus* daylight

## WITH GREENWOOD-AIRVAC ROOFLIGHT VENTILATORS

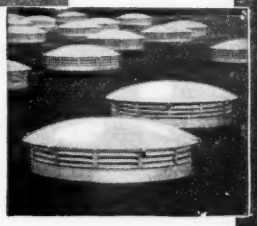
**Specifically designed to give both low overall height and unobtrusive appearance, the Greenwood-Airvac patented range of Dome and Continuous Rooflight Ventilators provides fully weathered controllable or permanent ventilation with maximum daylight.**



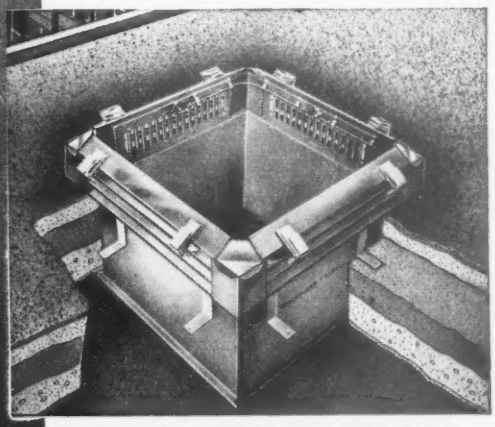
**GABLE END CONTINUOUS ROOFLIGHT VENTILATORS.**
In extended lengths from 4′ 0″ and nominal widths of 3′ 0″ to 7′ 0″ in multiples of 6″. With internal controllable shutters for long arm or remote control operation.



**HALF DOME END CONTINUOUS ROOFLIGHT VENTILATORS.**
In extended lengths from 8′ 0″ and nominal widths from 3′ 0″ to 6′ 0″, in multiples of 6″ to 4′ 6″. With internal controllable shutters for long arm or remote control operation.



**DOME VENTILATORS.**
To fit circular domes from 18″ x 72″ diameter or rectangular domes from 30″ x 30″ to 48″ x 72″ in glass, "Perspex" or fibreglass. Constructed of heavy gauge steel, galvanized after manufacture, and fitted with weatherproof external louvres.



**VENTILATED UPSTANDS AND LINERS.**
*(Dome removed)*
For building into roof structures. To suit all sizes of circular and rectangular domes. These units obviate the need for prepared curbs, special shuttering and rendering of roof openings, giving improved light value. Unventilated linings are also available.

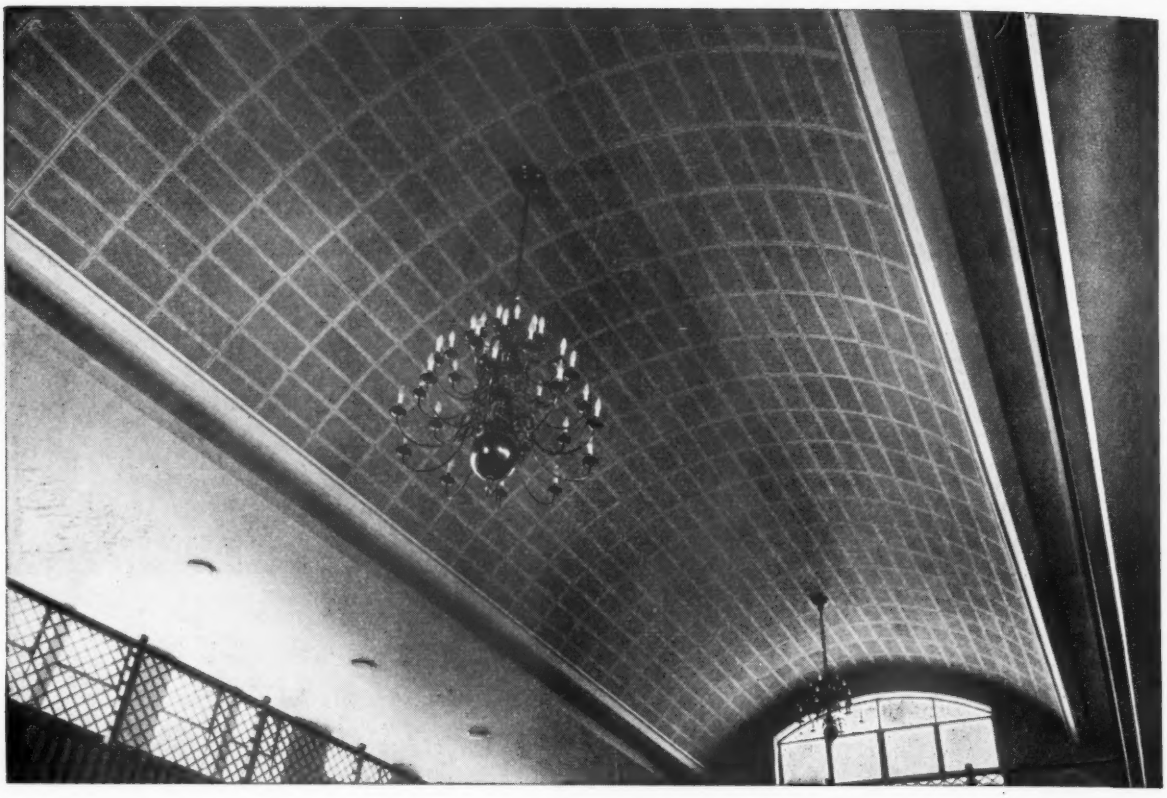
*Write today for illustrated technical leaflets on the full range of Dome and Continuous Rooflight Ventilators.*

**Greenwood-Airvac** *ventilation*

GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD
ESTABLISHED 1879.

PATENTEES. DESIGNERS AND MANUFACTURERS OF NATURAL AND MECHANICAL VENTILATING EQUIPMENT.

BEACON HOUSE, KINGSWAY, LONDON, W.C.2
CHANCERY 8135 (4 lines). 'Grams: 'AIRVAC', LONDON.



# SUNDEALA

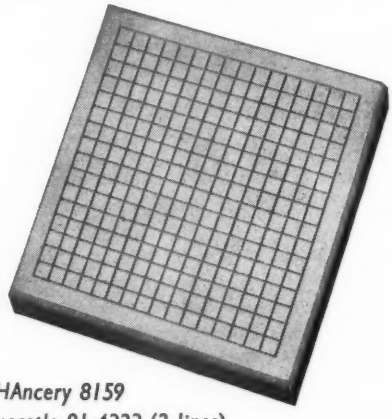
## SUSPENDED CEILINGS

Visible or concealed Sundeala Systems afford excellent thermal and sound insulation. They are available with standard insulation board treated to give Class I resistance to Spread of Flame OR ANY KNOWN RIGID SHEET MATERIAL.

Installation at Brent Synagogue, N. London. The Barrel Vault ceiling is lined with Sundeala Acoustic Tiles, 2 ft. × 1 ft., secured by means of a concealed Sundeala Fixing System.

ARCHITECTS: *H. V. Ashley and Winton Newman F|FRIBA*

CONTRACTORS: *Messrs. Moss & Sons Ltd.*



**SUNDEALA BOARD CO. LTD.**

**Head Office:** *Columbia House, Aldwych, London WC2 Telephone: CHAncery 8159*
**Newcastle:** *Northumbria House, Portland Terrace 2 Telephone: Newcastle 81-4323 (2 lines)*
**Scotland:** *S. H. Nunn, Eglinton House, Eglinton Estate, Kilwinning, Ayrshire Telephone: Kilwinning 284*
**Plymouth:** *Telephone: 68805/6*

*Sundeala also manufacture*

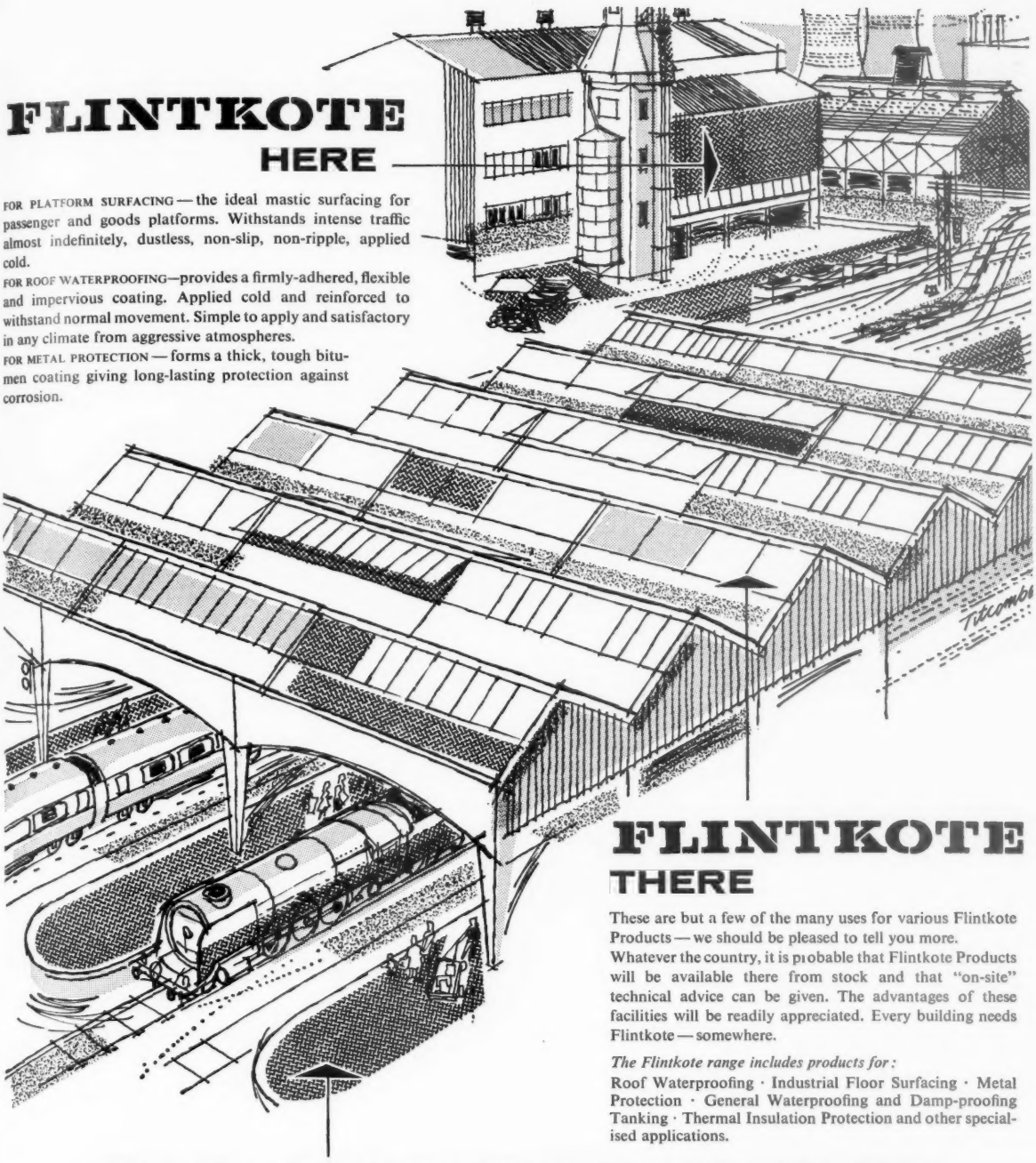
**HARDBOARD · MEDIUM HARDBOARD · PEG BOARD · REEDED HARDBOARD · TEMPERED HARDBOARD**

# FLINTKOTE
## HERE

FOR PLATFORM SURFACING — the ideal mastic surfacing for passenger and goods platforms. Withstands intense traffic almost indefinitely, dustless, non-slip, non-ripple, applied cold.

FOR ROOF WATERPROOFING—provides a firmly-adhered, flexible and impervious coating. Applied cold and reinforced to withstand normal movement. Simple to apply and satisfactory in any climate from aggressive atmospheres.

FOR METAL PROTECTION — forms a thick, tough bitumen coating giving long-lasting protection against corrosion.



# FLINTKOTE
## THERE

These are but a few of the many uses for various Flintkote Products — we should be pleased to tell you more. Whatever the country, it is probable that Flintkote Products will be available there from stock and that "on-site" technical advice can be given. The advantages of these facilities will be readily appreciated. Every building needs Flintkote — somewhere.

*The Flintkote range includes products for:*
Roof Waterproofing · Industrial Floor Surfacing · Metal Protection · General Waterproofing and Damp-proofing Tanking · Thermal Insulation Protection and other specialised applications.

# . . . FLINTKOTE Regd.

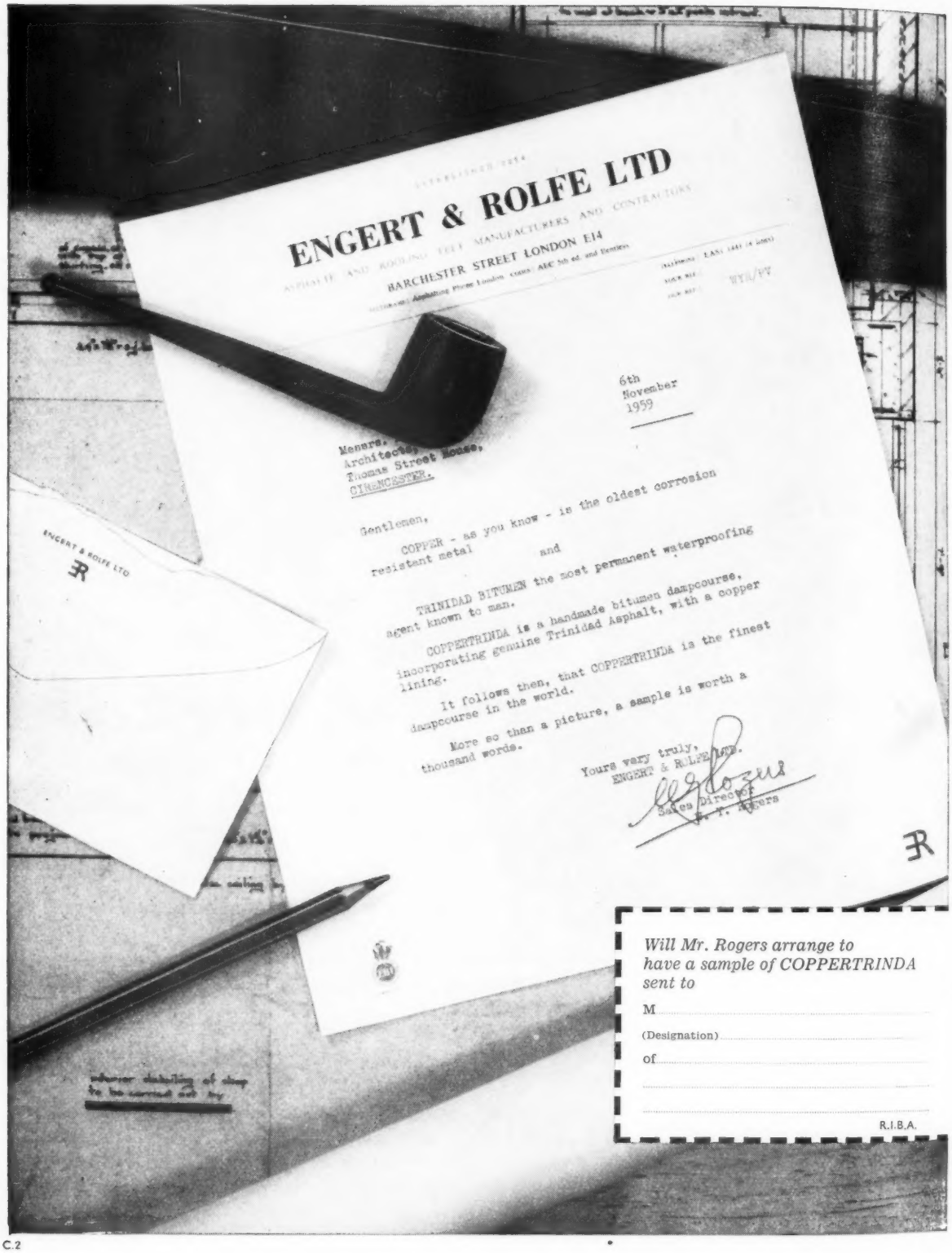
GARE DE MULHOUSE — FRANCE (S.N.C.F.) Flintkote flooring in busy goods depot subjected to heavy traffic.

# ALMOST EVERYWHERE

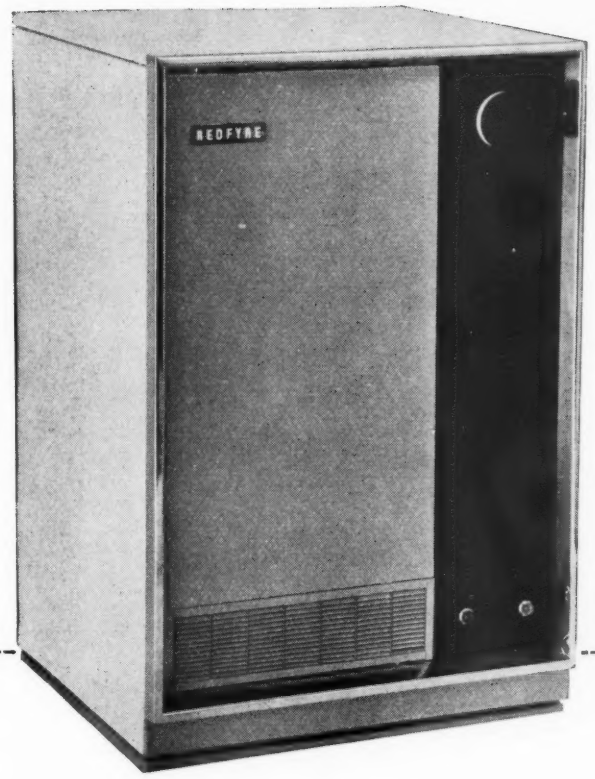
FLINTKOTE

**THE FLINTKOTE COMPANY LIMITED**
Adam House · One Fitzroy Square · London W.1
*Telephone: EUSton 7224.*

F.7


ENGERT & ROLFE LTD
ASPHALTE AND ROOFING FELT MANUFACTURERS AND CONTRACTORS
BARCHESTER STREET LONDON E14
6th November 1959
Messrs.
Architects
Thomas Street House,
CIRENCESTER.
Gentlemen,
COPPER - as you know - is the oldest corrosion resistant metal and
TRINIDAD BITUMEN the most permanent waterproofing agent known to man.
COPPERTRINDA is a handmade bitumen dampcourse, incorporating genuine Trinidad Asphalt, with a copper lining.
It follows then, that COPPERTRINDA is the finest dampcourse in the world.
More so than a picture, a sample is worth a thousand words.
Yours very truly,
ENGERT & ROLFE LTD.
Sales Director
E. T. Rogers
ENGERT & ROLFE LTD
Will Mr. Rogers arrange to have a sample of COPPERTRINDA sent to
M
(Designation)
of
R.I.B.A.

C.2




# The new REDFYRE CENTRAMATIC makes oil-fired central heating the *natural* choice for three or four bedroomed houses

The new Redfyre Centramatic 50 can provide full central heating and ample domestic hot water for a three or four bedroom house on as little as 25/– worth of fuel a week averaged over the year. It can do this partly because it is thermostatically controlled, and partly because of its unique electric ignition system which completely cuts out wasteful idling and keeps it efficient and economical even when worked at less than full capacity.

The Centramatic 50 is designed to fit perfectly into a modern kitchen. It has the right dimensions (36″ high x 21″ deep) and an attractive variety of 3-tone colour schemes. It is fully insulated, and does not rely on chimney draught for efficient combustion (although it needs a chimney flue in which to exhaust).

The Centramatic 50 is a packaged unit. It needs no special installation techniques. And, of course, being totally enclosed, permanently installed and fed with oil from outside the house, it is always perfectly safe.

The Redfyre Centramatic 50 produces up to 50,000 B.T.U's per hour and costs £128 retail. There is also a larger version, the Redfyre Centramatic 80, which has an hourly output of 80,000 B.T.U's and costs £149 retail.

*Full technical specifications of the Redfyre Centramatic oil-fired boilers are available. Please write to*

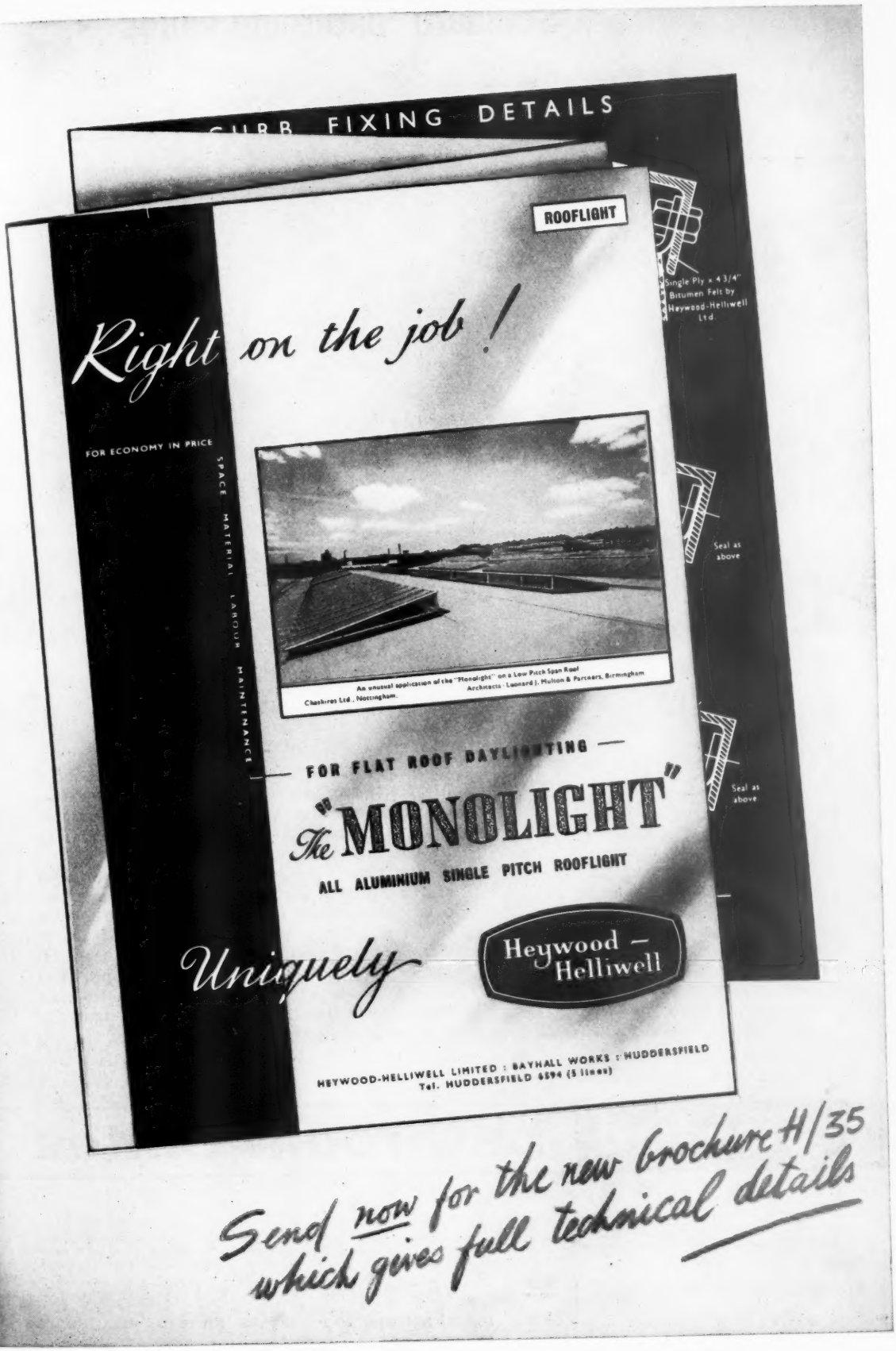
**NEWTON CHAMBERS & CO. LTD., REDFYRE PRODUCTS, THORNCLIFFE, SHEFFIELD**

## PROMPT PIPESMEN WHO NEED NO PROMPTING

Pipesmen Grant, Maddox, Powell and Pacitti cover four of the nine internal service areas in Britain. Their pledge (along with our five other pipesmen, too busy to pose for the photographer!) is 'delivery on the dot'. Whichever area you are in, there is someone ready to ensure that your order for Allied cast iron pipes, gutters and fittings is carried out promptly. He is your personal pipeline to the Allied Service. You will issue your order or send him drawings. He will take off the quantities required and send you any information you may need. You can depend on it—and him. For area 1 Telephone Stockton 65291; for area 9, Falkirk 2441; for all other areas, Wellington (Salop) 510.

rainwater and soil goods division of **ALLIED IRONFOUNDERS**

KETLEY, WELLINGTON, SHROPSHIRE


CURB FIXING DETAILS
ROOFLIGHT
Right on the job!
FOR ECONOMY IN PRICE
SPACE MATERIAL LABOUR MAINTENANCE
An unusual application of the "Planalight" on a Low Pitch Span Roof
Cheshires Ltd., Nottingham. Architects: Leonard J. Multon & Partners, Birmingham
FOR FLAT ROOF DAYLIGHTING —
The "MONOLIGHT"
ALL ALUMINIUM SINGLE PITCH ROOFLIGHT
Uniquely
Heywood — Helliwell
HEYWOOD-HELLIWELL LIMITED : BAYHALL WORKS : HUDDERSFIELD
Tel. HUDDERSFIELD 6594 (5 lines)
Single Ply x 4 3/4" Bitumen Felt by Heywood-Helliwell Ltd.
Seal as above
Seal as above
Send now for the new brochure H/35 which gives full technical details

# 'Standard' bathroom suites go into the Skyway Hotel, London Airport

Chartered Architects: FITZROY ROBINSON & PARTNERS
Main Contractor: BERNARD SUNLEY & SONS LTD.
Plumbing Sub-Contractor: ELLIS (KENSINGTON) LTD.

In the new Skyway Hotel, recently built at London Airport to receive guests from all over the world, each bedroom suite has its own bathroom equipped with 'Standard' sanitary appliances—as shown in the photograph on the left.

The 'Standard' Master Classic baths are made of cast-iron with a porcelain enamel finish and cast in one piece with an integral front apron. The wash basins and low level closet suites are made of 'Standard' vitreous china, the ceramic material which ensures permanent hygiene—because it is non-porous throughout. This fact, plus its high resistance to fracture, makes vitreous china the only material suitable for sanitary ware.

**Standard bathroom suites**

694

IDEAL BOILERS & RADIATORS LIMITED · IDEAL WORKS · HULL
*Visit our Stand No. 29 at the Building Trades Exhibition, Manchester, October 11th–22nd*

FOR THE LIFE OF IT

# *You can't put a foot wrong with*

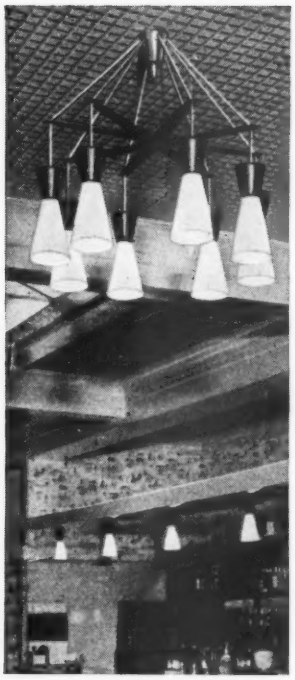
# LINOLEUM

Walls may have ears; but floors have their own ways of finding out things—like weaknesses in floor coverings for example.

It takes a pretty good floor covering to stand up to the constant bombardment of thousands of pairs of boots and shoes, year in, year out.

Modern Linoleum is tougher and more resilient than ever before. No other floor covering combines such comfort and durability with such a variety of patterns, shades, tones and effects. Modern Linoleum is your finest possible choice from the dual aspects of decorative effect *and* long-term economy.

**"THELMA"** stands for THE LINOLEUM MANUFACTURERS' ASSOCIATION, 127 VICTORIA STREET, LONDON, S.W.1.
*For further information write to the Association or to any of the following members:* **BARRY OSTLERE & SHEPHERD LTD.**, Kirkcaldy · **DUNDEE LINOLEUM CO. LTD.**, Dundee · **LINOLEUM MANUFACTURING CO. LTD.**, 6 Old Bailey, London, E.C.4 · **MICHAEL NAIRN & CO. LTD.**, Kirkcaldy · **NORTH BRITISH LINOLEUM CO. LTD.**, Dundee **SCOTTISH CO-OPERATIVE WHOLESALE SOCIETY LTD.**, Falkland, Fife · **JAS. WILLIAMSON & SON LTD.**, Lancaster.

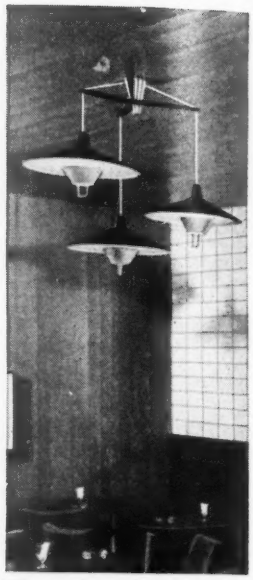


"*The Candlelight Room*" at the Mayfair Hotel, London, W.1. *Designer: Jack Stevens, Esq.*

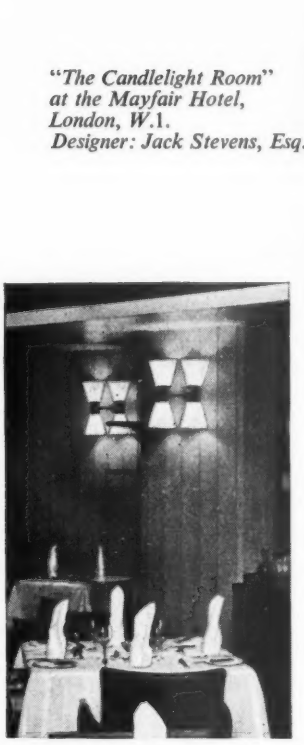
"*Regent Palace Hotel*", London, W.1. *Designer: G. Ramon.*

"*The Castle*", *Tooting, London.*





"*The White Knight*", *Crawley, Sussex. Architects: Messrs. Musman & Cousens, F./A.R.I.B.A.*



"*The Red Lion*", *Watling Street, London. Architect: Sidney C. Clark, F.R.I.B.A.*

## *Your lighting is important*

Lighting plays an important part in creating the right atmosphere in restaurant, hotel or bar. Troughton & Young, the experts in lighting, can supply the type of lighting you require.

From an extensive range of standard fittings, almost every requirement can be met, but through the ingenuity of Troughton & Young designers, special assemblies can be provided in many alternative finishes to meet specific installations. Please write for catalogues.

**TROUGHTON & YOUNG**

**TROUGHTON & YOUNG (Lighting) LTD.,** ***The Lighting Centre,*** **143 Knightsbridge, London, S.W.1**
**Phone: KENsington 3444,** ***and at Rodney Street, Liverpool 1***

# MILLS Universal Power Operated Cradles

Equipment installed permanently on the roof of a building, giving safe access to facades for cleaning, maintenance and repairs. The cradle itself is of light metal construction, fully sheeted up to a height of 3 ft. 3 in., with an 8 in. high rear handrail. The machine operates on a 3 x 440 volt, 50 cycle, 3Kw. power supply, which can be varied according to site conditions. All-welded twin jibs allow the cradle to be swung clear over the carriage, so entry can be effected from the roof, and cradle distance from the facade can be adjusted as required. The corner traversing gear rests on two rails with special swivelling bogies which allow sharp angled corners to be negotiated safely. Controls are operated from inside the cradle by a push-button system, and are interlocked with a "Dead Man's Handle". Voltage in cradle control box is only 24 volts. The cradle is carried by two lifting ropes of crucible steel wire, with a galvanized finish. If power fails, lifting can be carried out by an easily fitted hand wheel.

*Illustrated brochures giving full details of Mills Universal Power Operated Cradles and other types of Mills Power Operated Cradle are available on application to the Mills Scaffold Co. Ltd.*

### TYPE 1U

*For use on flat or slightly sloping roofs, where horizontal rail assemblies can be installed. Care must be taken that the passage is wide enough, even at its narrowest point, for the appliance to pass.*

| | |
|---|---|
| Safe Working Load | 440 lb. |
| Height Coverage | 164 ft. (also available with height coverage of 262 ft.) |
| Lifting Speed | 33 ft. per min. |
| Traversing Speed | 40 ft. per min. |
| Front Rail | 6 in. x 3 in. x 12 lb/ft. R.S.J. |
| Rear Rail | 6 in. x 3 in. x 12.41 lb/ft. R.S.C. |
| Clearance Space (from front rail to the back) | 4 ft. 3 in. |
| Front Wheel Base | 3 ft. 3 in. |
| Rear Wheel Base | 2 ft. 4 in. |
| Max. Wheel Pressure on Front Rail | 1433 lb/wheel |
| Max. Wheel Pressure on Rear Rail | 1322.77 lb/wheel. |
| Length of Cradle | 6 ft. 2¾ in. |

### TYPE 1U/A

*For use on flat roofs, with high parapets and restricted travelling space.*

| | |
|---|---|
| Safe Working Load | 440 lb. |
| Height Coverage | 164 ft. |
| Lifting Speed | 33 ft. per min. |
| Traversing Speed | 40 ft. per min. |
| Front Rail | 6 in. x 3 in. x 12 lb/ft. R.S.J. |
| Rear Rail | 6 in. x 3 in. x 12.41 lb/ft. R.S.C. |
| Clearance space (from front rail to the back) | 3 ft. 3 in. |
| Front Wheel Base | 3 ft. 3 in. |
| Rear Wheel Base | 2 ft. 4 in. |
| Max. Wheel Pressure on Front Wheel | 1477.10 lb/wheel. |
| Max. Wheel Pressure on Rear Wheel | 1256.63 lb/wheel. |
| Length of Cradle | 6 ft. 2¾ in. |

### TYPE 2U

*Parapet must be high and strong enough for rail mounting. Tubes of the required diameter are used as rails to give a smoother travel.*

| | |
|---|---|
| Safe Working Load | 440 lb. |
| Height Coverage | 164 ft. |
| Lifting Speed | 33 ft. per min. |
| Traversing Speed | 40 ft. per min. |
| Upper Rail | 3½ in. o/d x 7 swg. (Class B) |
| Lower Rail | 4½ in. o/d x 7 swg. (Class B) |
| Clearance Space (from centre line of front rail to the back) | 2 ft. 11 in. |
| Wheel Base of Upper Rail | 3 ft. 3 in. |
| Wheel Base of Lower Rail | 3 ft. 3 in. |
| Vertical Load on the Lower Rail | 1543.70 lb/wheel. |
| Horizontal Load on the Lower and Upper Rails | 881.85 lb/wheel. |
| Length of Cradle | 6 ft. 2¾ in. |

### TYPE 3U

*For use where site conditions will not allow the placing of rails or rail assemblies on the roof.*

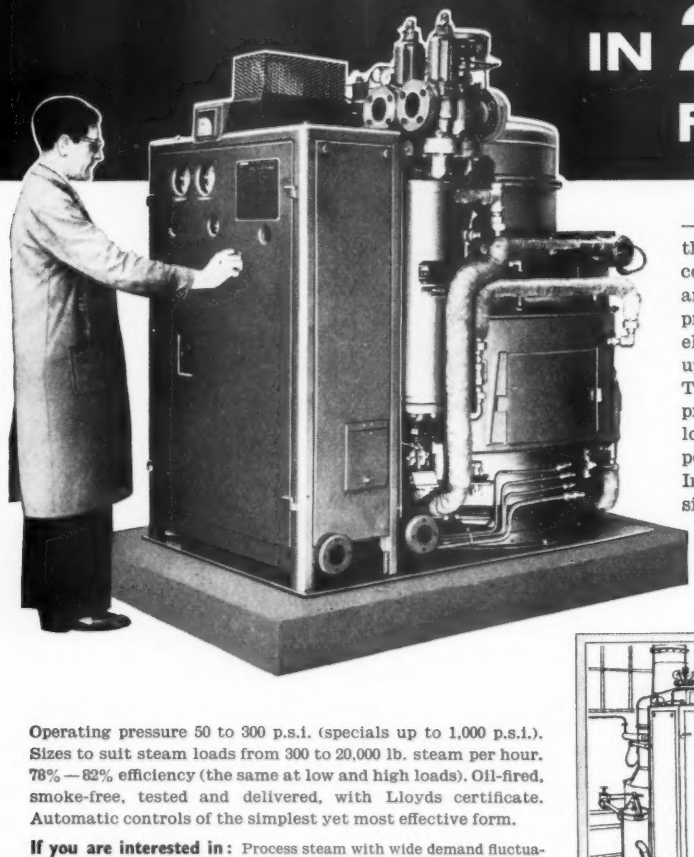
| | |
|---|---|
| Safe Working Load | 440 lb. |
| Height Coverage | 164 ft. |
| Lifting Speed | 33 ft. per min. |
| Traversing Speed | 40 ft. per min. |
| Clearance Space (from front wheels to the back) | 6 ft. 2 in. |
| Front Wheel Base | 3 ft. 3 in. |
| Rear Wheel Base | 3 ft. 3 in. |
| Wheel Pressure on Front Wheels | 1102.31 lb. /wheel. |
| Wheel Pressure on Rear Wheels | 1322.71 lb/wheel. |
| Length of Cradle | 6 ft. 2¾ in. |

**MILLS SCAFFOLD CO. LTD.** *(A subsidiary of Guest, Keen & Nettlefolds, Ltd.)*
*Head Office:* Trussley Works, Hammersmith Grove, London, W.6 (Riverside 3011)

*Depots:* BIRMINGHAM · BOURNEMOUTH · BRADFORD · BRIGHTON · BRISTOL · CANTERBURY · CARDIFF · COVENTRY · CROYDON · EDINBURGH GLASGOW · HASTINGS · HULL · ILFORD · LEICESTER · LIVERPOOL · LONDON · MANCHESTER · MIDDLESBROUGH · NEWCASTLE · NOTTINGHAM · OXFORD PLYMOUTH · PORTSMOUTH · PRESTON · READING · ROTHERHAM · SOUTHAMPTON · SWANSEA

# ALL STEAMED UP

## IN 2 MINUTES FROM COLD



—and dry steam too, continuously and under the most arduous conditions. Low in capital cost, smaller in size, and weighing far less than any boiler of the same capacity and design pressure, the unique Stone-Vapor design eliminates the need for boiler houses and takes up far less room than ever before.

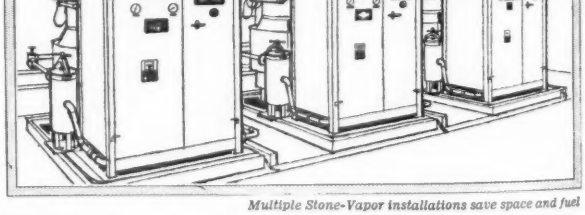
The use of completely automatic and accurate pressure control, even on widely fluctuating loads, cuts the quantity of fuel oil burned per shift/steam load.

Installation, operation and maintenance are simple and convenient, and large quantity production now permits deliveries to meet urgent requirements.

They're good—very good, these Stone-Vapor boilers. You should know more about them.

Operating pressure 50 to 300 p.s.i. (specials up to 1,000 p.s.i.). Sizes to suit steam loads from 300 to 20,000 lb. steam per hour. 78%—82% efficiency (the same at low and high loads). Oil-fired, smoke-free, tested and delivered, with Lloyds certificate. Automatic controls of the simplest yet most effective form.

**If you are interested in:** Process steam with wide demand fluctuations; Air conditioning at lower cost; **Roof Mounted Boilers;** Steam raising in less space; Laboratory and high pressure test work; Automatic boosters to the main steam plant. *Write for full details.*



*Multiple Stone-Vapor installations save space and fuel*

## STONE-VAPOR BOILERS

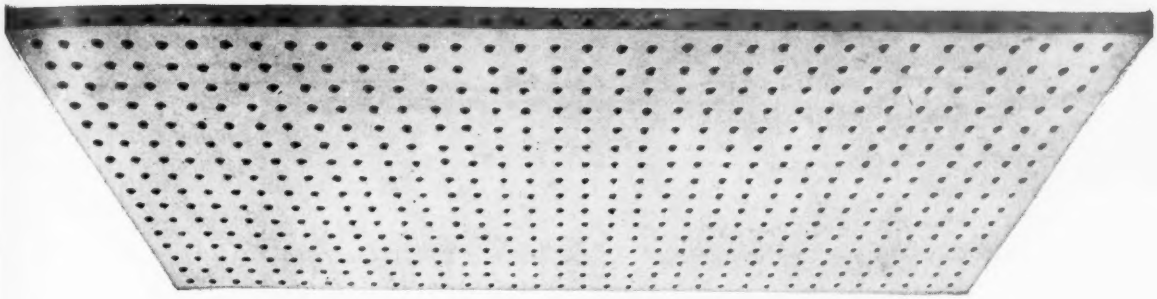
STONE FLATT GROUP

**J. STONE & CO. (DEPTFORD) LTD.** Arklow Road, London, S.E.14. Tel: Tideway 1202

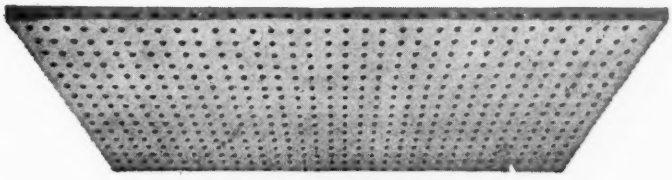
Manufactured under licence of the Vapor International Corporation Ltd., Chicago, U.S.A.

152

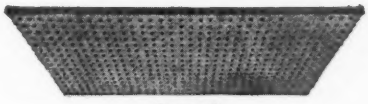
# PAXBOARD



## reduces noise to an



## undisturbing



## level

Newalls (Reg'd Brand) PAXBOARD presents the architect with a first-class medium for large-area acoustic insulation.

The modern tendency to use large rooms in office blocks results in an artificially increased noise level due to numbers of people working together, and makes acoustic treatment more essential than it would otherwise be. Similarly in factories, the provision of a sound-absorbent ceiling which reduces noise, and simultaneously insulates heat more effectively than any building board, is an attractive proposition, particularly in view of the reasonable cost for an all-asbestos product.

PAXBOARD has been produced especially for this class of work.

It is ½" in thickness and available in sizes up to 6' 0" × 3' 0", has a very good efficiency (50% absorption coefficient at 500 c.p.s. — 75% at 2,000 c.p.s.), is not affected by repeated decoration and, being composed entirely of asbestos, is absolutely *fire-proof* and is rot-proof and vermin-proof.

PAXBOARD weighs less than 1-lb./sq. ft. and the larger than normal acoustic board size renders erection cheaper and more convenient.

With all these practical attributes it is small wonder that PAXBOARD is firmly established as the architect's first choice for large-area acoustic insulation.

***Full technical information available on request.***

Newalls **PAXBOARD**

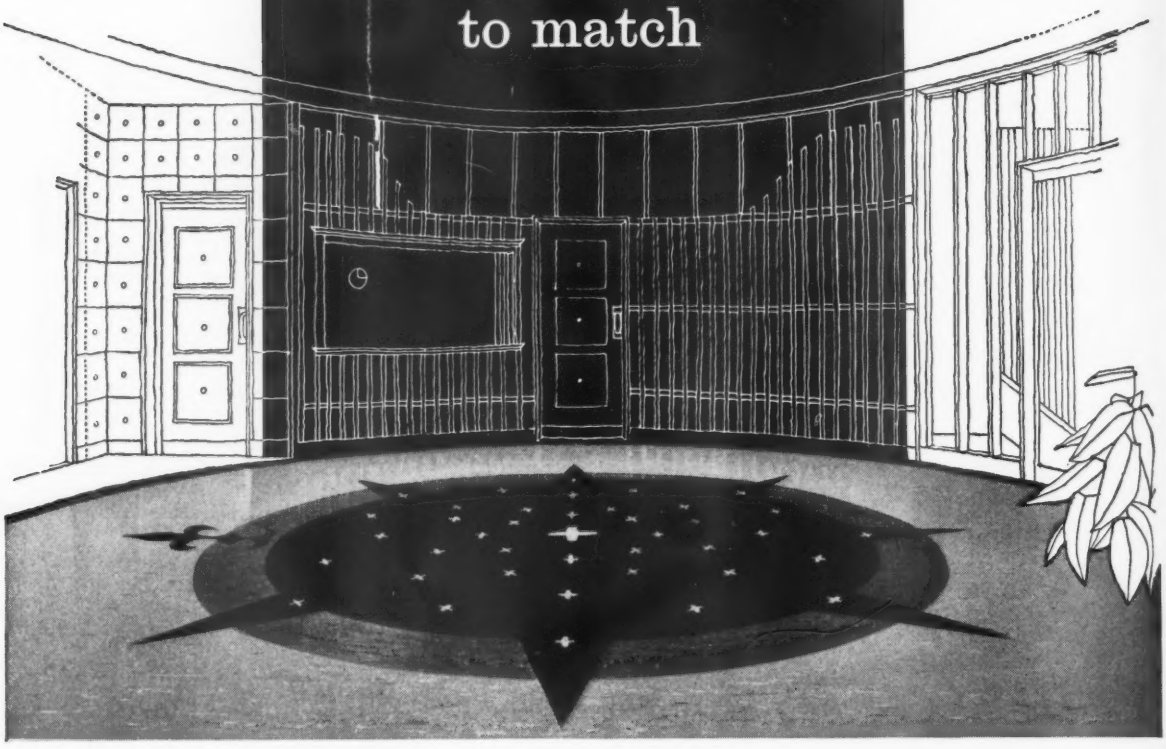
NEWALLS INSULATION CO. LTD. Head Office: WASHINGTON, CO. DURHAM

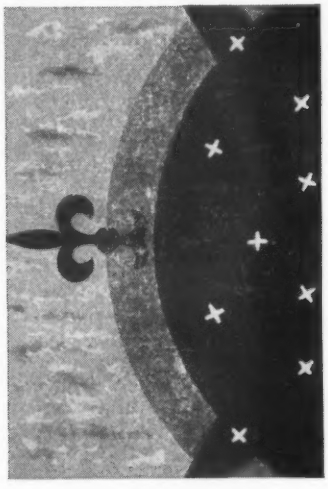
*A member of the* Turner & Newall Organisation

Offices & Depots at: LONDON, GLASGOW, MANCHESTER, NEWCASTLE UPON TYNE, BIRMINGHAM, BELFAST, BRISTOL and CARDIFF

*Agents and vendors in most markets abroad*

# The finest floors –and the SERVICE to match





*Dunlop Rubber Flooring in the entrance hall at the offices of Messrs. Reardon Smith Ltd., Cardiff.*

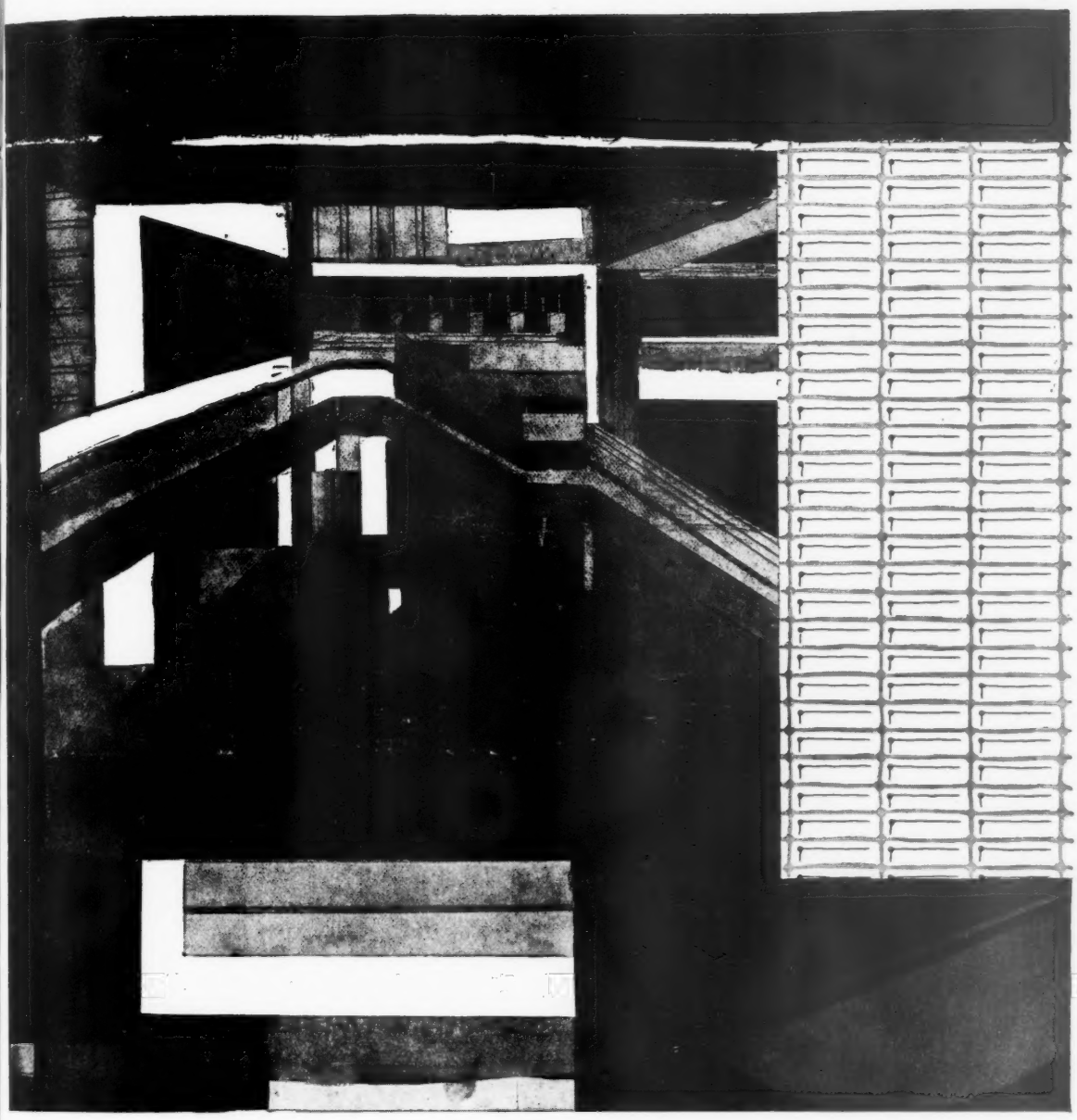
Semtex, manufacturers of a wide range of flooring materials, including Semastic Decorative Tiles, Semflex Tiles, Vinylex Tiles, Dunlop Rubber Flooring and Vertilex Decorative Wall Tiles, will employ their vast resources in taking welcome responsibility for your entire flooring operation. Twenty contracting branches throughout the country will advise readily on all flooring and pre-treatment problems and offer a highly-skilled laying service, providing, in addition, comprehensive facilities for design.

IMAGINATIVE MODERN FLOORS

Semtex Ltd

SEMTEX LTD · 10 SEMTEX HOUSE · 19/20 BERNERS STREET · LONDON W.1 · TEL: LANGHAM 0401

CFH/60/SE/C.15



*Drawing by John Drummond*

A Palladio Magnus wallpaper PANNUS, designed by Humphrey Spender, has been chosen as one of the Design Centre Awards for 1960

WPM

MORTIMER STREET

# A place for Wallpaper

THE FOLLOWING COLLECTIONS
ARE AVAILABLE FOR ARCHITECTS CONCERNED
WITH THE SPECIFICATION OR DIRECTION
OF DECORATIVE SCHEMES

**PALLADIO, HAYWARD, THE ARCHITECTS BOOK**

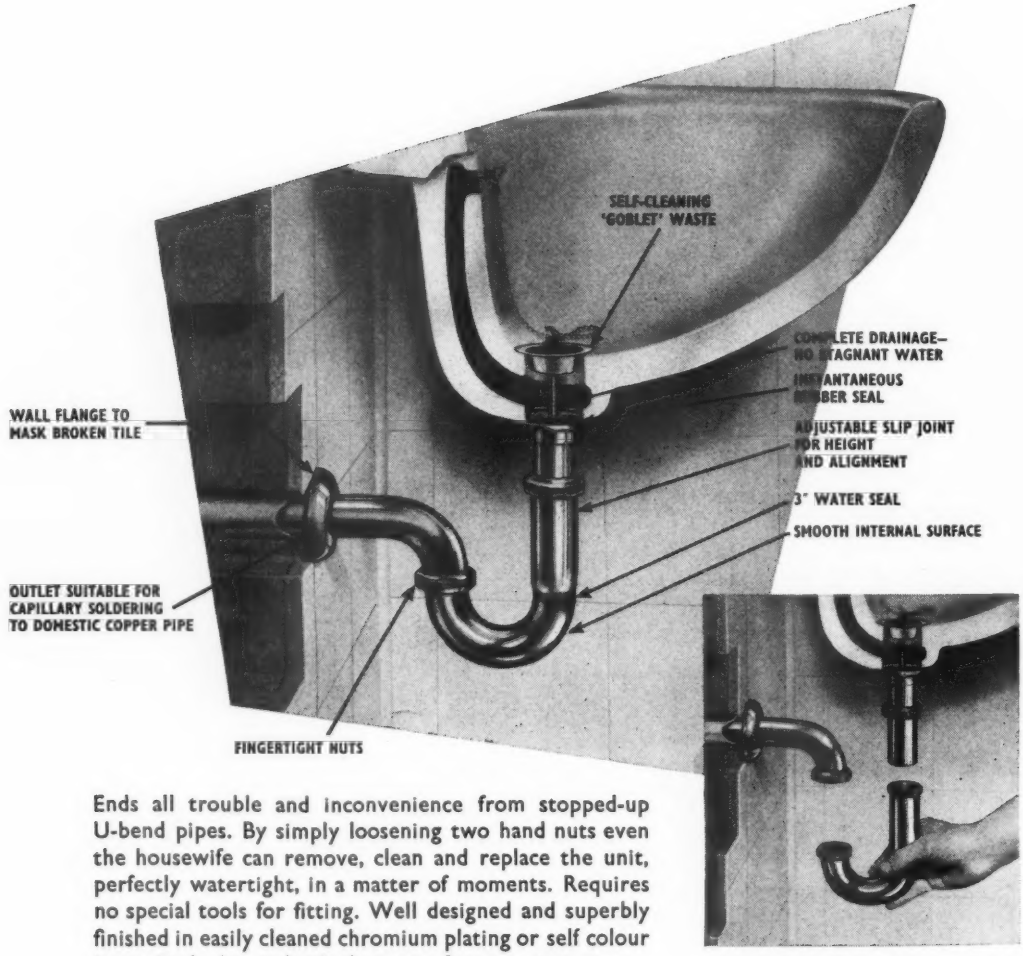
AND MAY BE SEEN AT

The Architects' Department The Wall Paper Manufacturers Limited
19/21 Mortimer Street London W 1
or King's House King Street West Manchester 3

*Introducing*

# The 'BARKING' TRAPPED WASTE

## Removed, cleaned and replaced in a matter of moments!


SELF-CLEANING 'GOBLET' WASTE
WALL FLANGE TO MASK BROKEN TILE
ADJUSTABLE SLIP JOINT FOR HEIGHT AND ALIGNMENT
3" WATER SEAL
SMOOTH INTERNAL SURFACE
OUTLET SUITABLE FOR CAPILLARY SOLDERING TO DOMESTIC COPPER PIPE
FINGERTIGHT NUTS

Ends all trouble and inconvenience from stopped-up U-bend pipes. By simply loosening two hand nuts even the housewife can remove, clean and replace the unit, perfectly watertight, in a matter of moments. Requires no special tools for fitting. Well designed and superbly finished in easily cleaned chromium plating or self colour brass. Packed in individual cartons for easy storage.



*U-bend instantly removed for easy cleaning*

BBS REGD. *Quality Fittings*

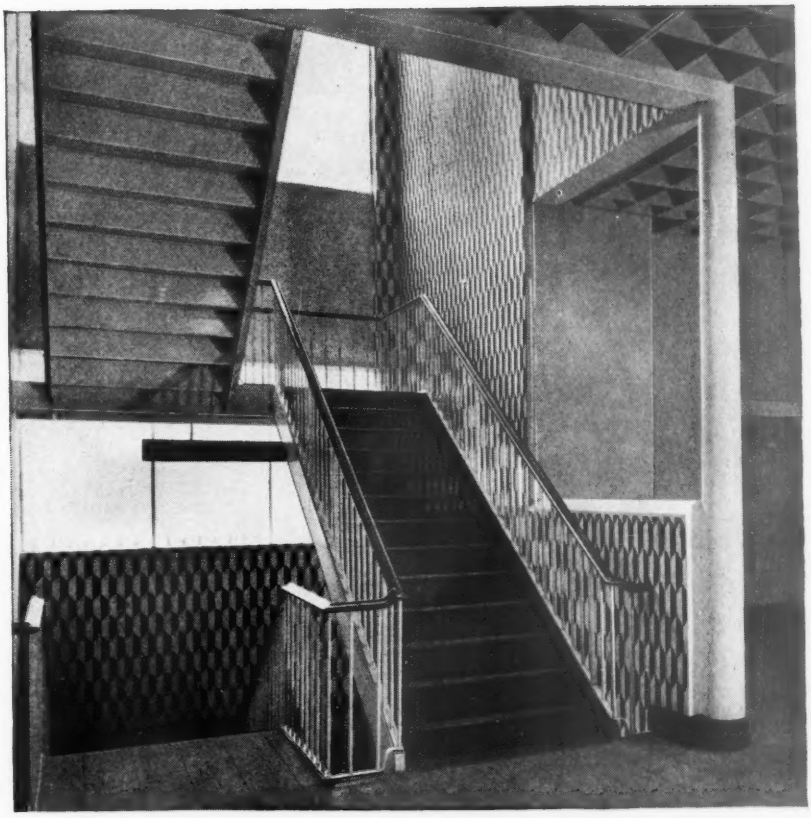
*Prices and further particulars on request:*

**BARKING BRASSWARE CO. LTD. (Dept. R.A.12)**

*RIVER ROAD · BARKING · ESSEX*

# HAYWARDS

## *'Steelock' stairs*



The Manchester College
of Science and Technology

Architects:
Messrs. H. F. Fairhurst & Son,
Manchester
Contractors:
Messrs. J. Jarvis & Sons Ltd.,
Manchester

'Steelock' stairs being of unit construction are adaptable to any location and can have balustrade to any individual requirements.
We also specialise in the construction of external fire escape staircases and balustrading. Designs and estimates submitted on request.

# HAYWARDS LTD

HAYWARDS LTD · UNION STREET · LONDON SE1

*TELEPHONE: WATERLOO 6035*
*TELEGRAMS: HAYWARD BROTHERS SEDIST LONDON*

P5277

**Attuned**

**to**

**Responsibility**

# Kaye Locks

Having chosen a style, every fixture must conform. Kaye Locks and door furniture provide the right combination of modern elegance and traditional reliability for the headquarters of the R.I.B.A.—as well as for many other famous buildings.

**FOR EVERY APPLICATION**

- Hotel Locks
- Mortice Locks
- Sliding Door Locks
- Emergency Door Fittings
- Padlocks
- Latches
- Rim Locks
- Cupboard Locks
- Stabilisers
- Drawer and Desk Locks

**TECHNICAL PERFECTION**

- 4 Lever Locks
- 750 Differs off Levers
- Differs from Levers and Wards are almost unlimited
- Followers are of hard resistant Brass
- Forends are of hard resistant Brass
- Phosphor Bronze Springs to Levers
- The 'K' design, four lever Lock is for greater security
- The Locks can be made in suites with Sub-master and Master Keys

*Photograph by courtesy of the R.I.B.A. Architects: Messrs. Playne & Lacey.*

**Illustrated literature is available on request**

SECURITY K SERVICE

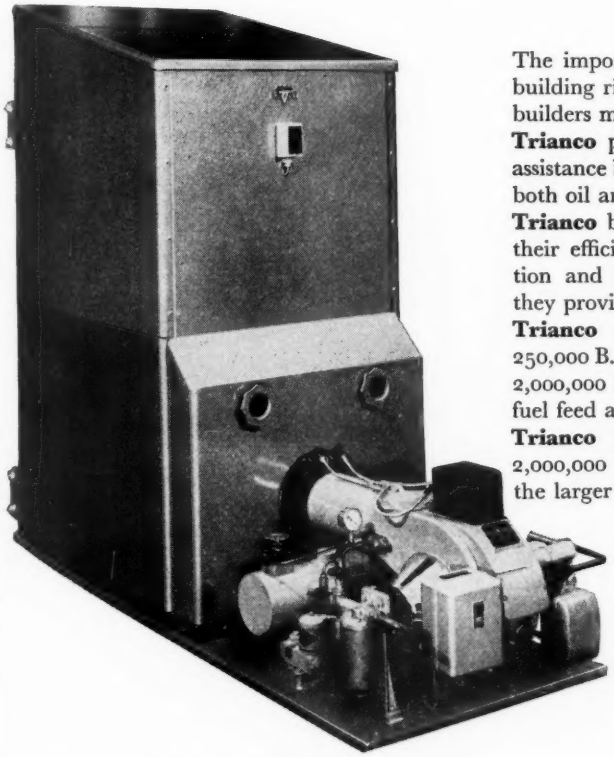
## Joseph Kaye & Sons Ltd.,

Established 1864

Lock Works, Leeds 10. Telephone: 20887
London Office 1–5, New Bond Street, London W.1. Tel: HYDe Park 2956

BY APPOINTMENT TO H.M. QUEEN ELIZABETH THE QUEEN MOTHER MANUFACTURERS OF DOMESTIC BOILERS

# Right from the start...



The Trianco 0.1000 *oil fired* boiler of 1,000,000 B.t.u. capacity.

The importance of planning the heating installation of any building right from the start is appreciated by architects and builders more than ever today.

**Trianco** provide at this stage, expert advice and practical assistance backed by a range of boilers catering for every need, both oil and solid fuel fired.

**Trianco** boilers enjoy an unrivalled reputation not only for their efficiency and economy, but for their ease of installation and operation, and the years of trouble-free heating they provide.

**Trianco** *solid fuel* boilers range from 50,000 B.t.u. to 250,000 B.t.u. in the domestic class, and from 250,000 B.t.u. to 2,000,000 B.t.u. in the industrial range, employing automatic fuel feed and ash disposal.

**Trianco** *oil fired* boilers range from 100,000 B.t.u. to 2,000,000 B.t.u. burning 35 sec. gas oil and 200 fuel oil in the larger capacities.

**TRIANCO**
**automatic boilers**

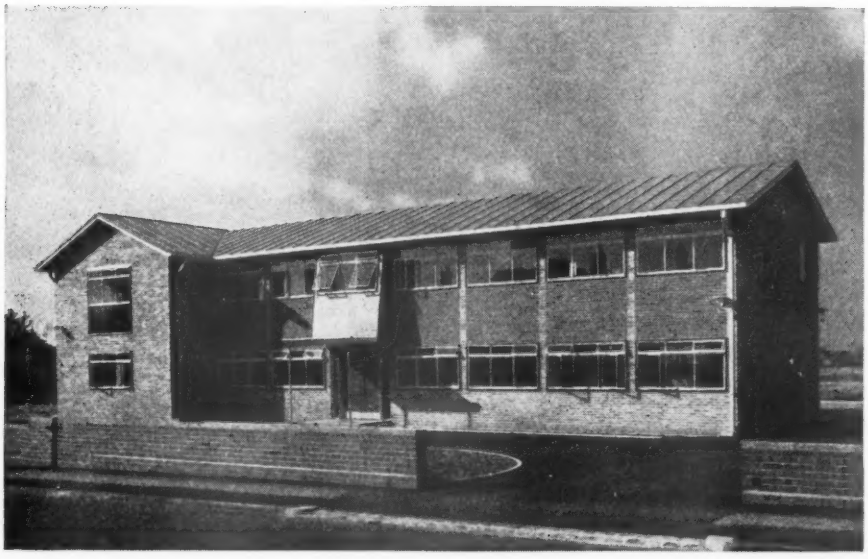
**Write NOW for current brochures of the complete TRIANCO Range.**

**TRIANCO LTD · IMBER COURT · EAST MOLESEY · SURREY. Tel: EMBERBROOK 3300.**

*FOR HOSPITALS AND SIMILAR BUILDINGS—*

# BRODERICK INSULATED COPPER ROOFING

## *ON TRUSSED RAFTERS IS IDEAL*



SOUTHAMPTON GENERAL HOSPITAL

New Group Offices for South-West Metropolitan Regional Hospital Board.

*Architects:*
GUTTERIDGE & GUTTERIDGE

*Contractors:*
MULLEN & LUMSDEN LTD.

BRODERICK INSULATED COPPER ROOFING at 22½ deg. pitch on trussed rafter roof framing.★

**THREE GOOD REASONS—**

**1.** The LONG LIFE of copper roofing with freedom from maintenance needs no emphasis.

**2.** The factory-covered insulating roof panels REDUCE HEATING COSTS.

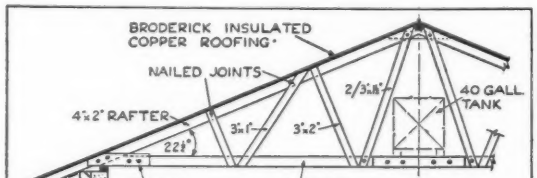
**3.** Our trussed rafters at 2 ft. centres carry all roof and ceiling loads economically to outer walls permitting FREE PLANNING, with subsequent RE-PLANNING of floor space, if desired, without affecting the structure.

★ Roofing panels 2 ft. wide and up to 14 ft. long are faced at our factory with copper by our patent system, with projecting flanges at sides and ends for site jointing, and supported on prefabricated trussed rafters.

We design, supply and erect complete 'EVERYTHING ABOVE THE WALL PLATE' and will be pleased to submit a scheme and estimate for any suitable job in any part of the country.

Design, workmanship and materials are GUARANTEED FOR TWENTY YEARS.

THE RADCLIFFE INFIRMARY, OXFORD
Architects: J. F. WATKINS & PTRS. and W. H. WATKINS, GRAY & PTRS.
Contractors: BENFIELD & LOXLEY LTD.
24,000 sq. ft. of BRODERICK INSULATED COPPER ROOFING at 15 deg. pitch on fire-proofed trussed rafters up to 40 ft. clear span.




★ SOUTHAMPTON Detail of prefabricated trussed rafters at 2 ft. centres supporting water tanks.

*ILLUSTRATED FOLDER FREE ON REQUEST*

## BRODERICK INSULATED STRUCTURES LTD.

Hermitage Road, Woking, Surrey — Telephone: Brookwood 2266

# The Journal of the Royal Institute of British Architects

66 Portland Place London W1 Telephone Langham 5533

September 1960
Third Series Volume 67 No. 11
Price 3s 6d


## THE IUA CONGRESS

Next summer British architects will have a once-in-a-lifetime opportunity of meeting and entertaining their foreign colleagues in the mass. The sixth congress of the International Union of Architects is to be held in London from 3 to 7 July and some hundreds of foreign architects with their wives are expected to attend. The IUA has 40 member countries and the Congress is held every two years. As there is always considerable competition for the honour of acting as host country to the Congress, it is most unlikely that it will be held here again within the lifetime of present members of the RIBA. It is therefore a unique occasion for British architects. The RIBA is the British section of the Union and all members of the RIBA are automatically members of the IUA. The Congress, which in 1961 will take the place of the British Architects' Conference, is being organised by a specially appointed committee of the RIBA under the chairmanship of Professor Robert Matthew who is one of the three Vice-Presidents of the IUA. The President of the IUA is Hector Mardones Restat of Chile, but Sir William Holford will be the President of the Congress.

Previous congresses have been held about every two years in Lausanne, Rabat, Lisbon, The Hague and Moscow, the number attending has increased on each occasion, and is expected to reach 1,500 in 1961. The general pattern of these congresses is now well established and only minor variations are made from year to year to suit local conditions. First a theme is suggested by the host country for the approval of the executive committee of the IUA. Experts on the subject are then invited to submit papers. These papers are circulated to the national sections for comment and the national comments are printed with the papers and issued to all those attending, before the Congress. At the opening plenary session the main speakers introduce their papers and a small number of invited speakers make their contribution. The theme for 1961 is 'New Techniques and Materials – their impact on Architecture' and there will be three main papers. After the opening session the Congress will divide into three working groups each with its own chairman. Each group will discuss each paper. Three hours are being allotted for each discussion making nine hours of discussion in all.

The headquarters of the Congress will be at the Royal Festival Hall where both plenary sessions will be held. The working groups will be held either there or in halls within easy walking distance.

The Congress will close with a plenary session at which there will be a summing up of the three days of discussion.

All working sessions of the Congress will take place in the mornings, the afternoons being left free for excursions and shopping. Evening events will include receptions given by the Government, the Corporation of the City of London, the LCC, London University and the Building Centre, a garden party given by the Cement and Concrete Association, and a final Gala evening – probably at the RIBA. Tours are being arranged after the Congress to various parts of the country for visitors from abroad who have more time to spend here.

Other traditional features of the Congress are an international exhibition on the theme of the Congress, an International Architectural Book exhibition and an exhibition of drawings submitted in competition by schools of architecture from all over the world. These exhibitions will be housed in a special temporary building to be constructed on the South Bank.

In addition to the normal work of the Congress, the Assembly, parliament of the IUA, and the Executive Committee, its cabinet, will each hold several meetings culminating with the election of a new committee and a new President who will remain in office for the next two years.

The IUA has its headquarters in Paris. It has no vast secretariat but is run by one of its founders, the well-known French architect Pierre Vago, and a secretary. The Union's income is derived from national contributions and is very small. Its activities apart from Congresses consist mainly in maintaining nine standing committees each of which meets annually. The work of the committees is controlled by the executive committee of 21. Each country has one or more seats in the Assembly, up to five, the precise number depending on the number of members in the national sections. Great Britain has four delegates. Representation on the executive is on a continental basis and not every member country is represented. As a Vice-President of the Union Robert Matthew has a seat on the executive.

The official languages of the Union are English, French, Russian and Spanish. For the Congress arrangements are being made for instantaneous translation and radio broadcasting in these languages. Each member of the Congress being provided with a radio receiver.

The organisation of a Congress of this type is extremely expensive. Previous Congresses have been heavily subsidised by national Governments. The British Government, however, does not help to finance such things and for this reason the 1961 Congress has had to be planned as a largely self-supporting affair. The registration fee of £18 for full members, £15 for associate members and £5 for students is therefore a good deal higher than is normal. On the other hand there are no extras and all excursions and parties are included. Had it not been for the very generous support of the building industry, the fee would have been considerably higher.

The RIBA is the largest body of architects in the world. It has great prestige abroad. Its code of professional conduct has already formed the basis of the code drawn up by the IUA and recommended for use in all member countries. British architects, starting with the late Sir Patrick Abercrombie, who was one of the founders, and who at the time of his death was *president d'honneur*, have played a leading part in the foundation and running of the IUA. The Union's work in the field of international architectural competitions and in the organisation of the profession has been of considerable importance. The RIBA through the work of its members has become well known in the Union and foreign architects attending the Congress will be anxious to meet members and see the Institute at work. It is very important therefore that the British attendance at the Congress should be representative and massive. Members of the RIBA who have travelled abroad and experienced the warmth of welcome customarily extended to professional colleagues by foreign architects will, it is hoped, feel that this is an unrivalled opportunity to make some return. Quite apart from this, international gatherings of this kind are of the greatest value in improving relations between the various nations by providing opportunities for discussion and exchanges of views not only on professional matters but also on the daily business of living our lives. There will be opportunities for British architects and students, particularly those with knowledge of foreign languages, to volunteer as guides and interpreters, and to entertain our visitors both in London and in the other towns which they will be visiting.

The 1961 Congress will provide a most suitable occasion for British architects to help in the maintenance of good international relations. We ask for your support.

Further information on the Congress will appear in later numbers of the JOURNAL, but in the meantime anyone interested in taking part should write for details to: The Organising Secretary, VIth Congress of the IUA, RIBA.

# Rebuilding Our Cities: RIBA Statement

The Royal Institute has issued the following statement summarising the conclusions reached at this year's British Architects' Conference at Manchester.

The Conference were concerned with how to achieve in old towns a congenial urban environment for all (for work and pleasure, living and shopping), in a time of intense building activity; and in particular how to reconcile pedestrian safety and enjoyment with the free flow of motor traffic. They were convinced that the legal, administrative and financial framework within which local authorities and private developers who employ architects have to work is jeopardising the chances of solving these problems properly.

While the profession could do with more skilled architect planners and better town planning training, the main need, in a critical situation, is for imaginative leadership and drive from the Government. This has yet to materialise.

Meanwhile, much rebuilding is already taking place, and at an increasing rate, in the centres of those prosperous towns and cities that attract the private developer. Such

development, however, has so far been piecemeal, whereas comprehensive planned development is essential if local authorities are to provide the new roads, subways, pedestrian areas, upper level pavements, parks, playgrounds and all those features that add character and convenience to a city as a place to live in as well as to work.

In contrast to these prosperous central areas are those 'inner ring' districts, as outmoded and ugly as they are inefficient and unprofitable, which must be rebuilt before long but which are allowed instead to decay because public authorities lack the money, and private developers the incentive, to renew them. These are the 'twilight areas' between the centre and the outer suburbs that occur, not only in London (Battersea, Islington and so on), but also in the industrial north, the Midlands, Scotland and Wales, from which the population continues to move, when it can, to the south-east in search of better conditions.

To meet this situation, the RIBA makes three proposals:

(i) A Minister responsible for planning and co-ordination of development should be appointed. There are various ways in which existing Government machinery could be adjusted to achieve this.

Town and Country Planning, for which there was a separate Ministry during and immediately after the war, has been relegated to a department within the Ministry of Housing and Local Government, which does not even carry the word 'Planning' in its title. The Minister is preoccupied with many other questions ranging from housing and rent control to local government and Welsh Affairs, yet the size of the planning problem at national, regional and local level is such as to require full-time attention.

The new Minister (or other organisation which the Government consider would meet the urgency of the situation) would take over the Planning functions of the Ministry of Housing and Local Government, the distribution of Industry (now controlled by the Board of Trade) and the integration of traffic planning with town and country planning on a national and regional basis. Such problems as urban congestion, green belts, the supply of building land and the continued drift of population to south-east England cannot be solved by the Ministry of Transport or the Ministry of Housing and Local Government working in isolation.

(ii) An expert Committee should be appointed, charged with studying issues such as these:

(*a*) The likely pattern, in a changing society, of present towns and cities as they could and should develop in the future, with particular regard to the future impact of motor traffic.

(*b*) The financial problems of comprehensive redevelopment, whether by private or public enterprise, e.g. problems of site acquisition, compensation and betterment, 'unremunerative' areas and amenities.

(*c*) The procedural difficulties of local authorities in attempting to encourage comprehensive development, whether by private or public enterprise, e.g. the statutory time limit for planning consents regardless of the scale and character of the development, the limitations of CDA procedure, the piecemeal nature of slum clearance.

(*d*) The co-ordination of present methods of allocating finance under unrelated headings such as road improvements, slum clearance, housing, public utilities, parks and open spaces.

(*e*) The best use of limited resources in technical personnel and how to co-ordinate their activities in county, district or government planning.

(*f*) Green Belts; and the future demand for land for building and the supply available to meet it.

(iii) An urban renewal research and experimental unit should be established at once to obtain and study the data necessary for town and city reconstruction. This might also serve the expert committee above, but it should be free of routine advisory responsibilities, and must be adequately staffed with a wide range of skills. The following are typical of many questions for study, in addition to the financial and procedural problems referred to above:

(*a*) The present and projected movement of traffic, including pedestrians and the space they require, within urban areas.

(*b*) The traffic generated by buildings of different kinds and uses.

(*c*) Alternative methods of car parking in central and residential areas.

(*d*) New trends in shopping, e.g. the increase in supermarkets.

(*e*) Re-examination of plot ratios, daylighting standards and other planning techniques.

(*f*) Introduction of more residential accommodation into central areas and, conversely, of light industry and commerce into housing areas.

This research is needed immediately, for without a forward-looking traffic system, pedestrian and vehicular, there can be no comprehensive reconstruction on a new street pattern; and without a new street pattern many towns and cities must steadily suffocate.

This unit, whether established departmentally, interdepartmentally or even on a consultant basis, should be encouraged, as part of its research, to initiate and carry through, in conjunction with selected local authorities, pilot schemes on an experimental basis. The 'urban renewal research unit' established by the Ministry of Housing and Local Government (the constitution of which was referred to by the Minister in the House on 12 July 1960) is in no sense adequate to this task.

# RIBA Topics

### Charles Woodward

It is with deep regret that the JOURNAL records the death of Mr Charles Woodward [*A*]. For the last 15 years he has been responsible for Practice Notes, and he will be greatly missed at 66 Portland Place.

### New Standard Signboards

Many members have suggested that the present standard signboard is too small for use on large sites. The Council have therefore approved the use of a new standard board measuring 8 ft. by 2 ft. incorporating the redesigned RIBA badge. There will also be a smaller board of similar design for use on small jobs.

It is expected that the new boards will be available early in the autumn and members who are contemplating ordering signboards for the first time may care to delay their order until the newly designed boards are available. Full details will be published in the JOURNAL as to the appropriate uses for the different sized boards as soon as the boards are available.

### RIBA Ball

An RIBA Ball will be held at 66 Portland Place on Friday 28 October. This Ball is for Members, Students, Probationers and their guests – an essentially domestic affair, not a formal reception. The Social Committee who are running this members' evening invite readers to make up parties to come to the Ball and tables for eight can be booked for this purpose. Dress will be black or white tie. There will be two bands: Tim Clayton and his Orchestra in the 'Ballroom' and Eric Silk and his Southern Jazz Band in the 'Night Club'. Other entertainments include a continuous film show of Charles Eames' films, an architectural quiz and an exhibition in the Library. Tickets are 25*s*. Applications to Secretary, RIBA, marked 'RIBA Ball'.

### World Refugee Year Appeal

The following letter was received by the then Hon. Secretary, Mr Richard Sheppard [*F*].

Dear Mr Sheppard,

I have now received a cheque for £6,250 representing the proceeds for our Central Appeal Fund from the British Architects' Appeal on behalf of our campaign.

This is a wonderful achievement and I should be grateful if you would convey to your President and Council my Committee's grateful thanks for your generous support of the Appeal.

The campaign in general throughout the country has been an unprecedented success, and there is no doubt that this has been due to the support given by organisations such as your own.

Thank you very much.

Yours sincerely,

H. SHAW

*Organising Secretary, UK Committee*

### Building Society Advances: Architects' Fees

The RIBA has been asked by one of its members whether it is not possible for building societies, when making advances on a house individually designed for his client by an architect, to calculate the advances on the total cost of the house including the architect's fees. The member stated that advances are normally calculated on the cost, excluding architect's fees, and that this greatly increases the lump sum to be found by the house owner. The RIBA has consulted the Building Societies Association, which states that 'advances made by a building society are related to the cost or valuation of the property concerned "whichever is the less". The Council considers that the fees of an architect may properly be regarded as part of the cost, but that the overriding condition mentioned above must still apply in these cases. The Council assumes of course that the value of the architect's services will be reflected in the valuation.'

Architects are reminded of the advice given by the Building Societies Association in the RIBA JOURNAL (May issue, page 235) to consult the Building Society at an early stage, rather than waiting until the house has been designed and estimates have been received.

### University of Edinburgh: Diploma in Civic Design

'If we fail to control our environment, our environment will control us.'*

This is the warning that the architectural profession has been giving with increasing urgency and effect. But if the campaign for Urban Renewal and Comprehensive Redevelopment is to succeed it can only be done under the control of men specially trained for the responsibility, and there must be enough of them to carry it through.

A preliminary note on the new full-time course on Civic Design which the Department of Architecture of Edinburgh University, under Professor Robert H. Matthew [*F*], is organising appeared in the June JOURNAL. Although this course is designed to meet all the requirements of the TPI, it will concentrate on the urgent problems of Urban Renewal with particular emphasis on the techniques of Comprehensive Redevelopment. For this purpose careful attention is being given to the integration of various specialist studies which have to be provided in order that a complete understanding of the total planning procedure may be achieved.

There are still vacancies on the course for those with the requisite qualifications. A brochure giving a brief outline of the course and the formal University Regulations is obtainable on application to the Professor of Architecture, The University of Edinburgh, 16 George Square, Edinburgh 8.

* Mr Peter Chamberlin [*F*] at the Civic Trust Conference on 15 July.

### RIBA Hospitals Course

To hold a course for 450 architects, with some 50 specialists in attendance, for five days at the RIBA was something of an experiment. To do so meant that the building had to be stretched to capacity and the small staff of the Technical Department grossly overburdened. But with the aid of the Palantype Organisation the experiment appears to have succeeded and our thanks are due to the numerous architects who wrote us such warm letters of congratulation.

It was a great disappointment that many people who would like to have attended were unable to do so for lack of space. Maurice Goldring, the Institute's new Technical Information Officer, is at present preparing a very full report, and it is hoped that this will be of particular value to those who could not attend. Details of this publication will be given in the JOURNAL at a later date.

The detailed content of the papers given will be the subject of the report, but one of the themes which repeatedly occurred in the discussions is worth considerably more study. The advantage of a programme of buildings is that it allows the profession to plan ahead, to co-ordinate its work, simplify its conclusions and to develop as a result of experience gained. It would be in the interests of the hospitals programme if a small study group could be set up under the wing of the RIBA, to consider how best the profession can achieve this programme.

In his introduction to the course the President, Sir William Holford, concluded by saying to the Minister of State for Scotland, 'Finally, Minister, I should like to make the plea that is customary whenever the building industry is contemplating its resources at the start of a new programme: the plea is that the programme should be allowed to run smoothly and evenly, without fits and starts and sudden alterations of pace. The RIBA, I know, is anxious to play its part, and realises how important it is that user requirements should be readily available, that approvals should be kept to the minimum and decisions given without long delays. If there is any form of joint study which the Institute could initiate and follow through with the authorities concerned, we should be glad to discuss it.'

### Brick Shortage

The brick shortage still causes much embarrassment to the profession and to the building industry as a whole.

The views of the industry were made clear to the Ministry over a year ago, after the Conference of Chairmen and Secretaries of the National and Regional Joint Consultative Committees of Architects, Quantity Surveyors and Builders had debated the matter.

The effects of the shortage can, however, be alleviated, if architects and builders place their orders for bricks wisely and as far as possible in advance.

Many architects are avoiding delays on this account by placing orders for bricks before the job goes out to tender. Alternatively they are specifying various types of block instead of bricks or at least those bricks which are not in short supply. Clearly everything that members can do to relieve the situation in this way will be welcome.

### Brighter Post Offices

It has been announced by the Postmaster-General that Crown Post Offices are to be modernised and made more attractive for customers and staff at the rate of 100 to 150 a year at an annual cost of £300,000.

If the first example, that in South Molton Street, is typical, then this enlightened policy should be an advertisement not only for the Post Office but for the architectural profession.

It is through public buildings like post offices that the general public can be made aware of the services the architect can offer, and we hope the General Post Office will give wide publicity to the profession whose members are implementing Mr Bevins' admirable ideas.

The Architects' Window, Guildford Cathedral, designed by Mr William Wilson, RSA. A note appears on page 423

**Slides on Architecture and Related Subjects**

Inquiries are frequently received at the Institute from members wishing to borrow slides for lecture purposes. The RIBA has always taken the view that it is preferable to maintain one architectural slide library in London than to have two overlapping collections. For this reason it makes an annual grant towards the cost of building up and running the collection at the Architectural Association which is available to all members of the RIBA.

The collection includes slides of architectural and allied subjects of all places and periods and consists of the original black and white slides measuring 3¼ in. by 3¼ in. and two sets of smaller sized slides measuring 2 in. by 2 in., one set in black and white and one in colour (35 mm.). The fee is 4*d.* per slide for black and white and 6*d.* for coloured.

Further particulars and a form for borrowers can be obtained from Miss M. C. Morrison, Curator, Slide Library, Architectural Association, 36 Bedford Square, London, WC1, or from the RIBA Library, 66 Portland Place, London, W1.

# Competition by tender

The following statement has been prepared by the Council.
A copy has been sent out to local authorities in England, Scotland and Wales.

During recent years, and particularly in the last few months, the RIBA has been increasingly concerned about the methods adopted by local authorities to dispose of land for private development. A system has grown up which has been loosely described as 'competition by tender', in which the local authority offers to sell or lease a valuable central site, and invites developers to submit a bid for the site together with an architectural design for the proposed development.

The local authority has two aims in view. One is to secure the satisfactory development of the site in the interest of the public whom it represents, so as to achieve a major civic improvement and the solution of such problems as traffic congestion, car parking, lack of open space and other public amenities. The other is to obtain the maximum return from the developers, partly because it is its duty to the ratepayers to obtain a good return, and partly because by doing so it obtains some compensation for the outlay it has to make on public services.

The difficulty which has arisen, and which is causing the RIBA so much concern, is that the two aims often come into conflict with each other. A local authority which receives a number of bids from developers, each accompanied by a scheme designed by the developer's architect, is strongly tempted to accept the highest bid, even if it is not for the best-designed scheme. If it does so, the council is in the short-run the financial gainer, but the community is the loser in the long run. If it is known that the site is likely to go to the highest bidder, the developer is himself tempted to skimp the provision of public amenities and to exploit the site to the utmost, even if by doing so he does not develop it in the most desirable way from the point of view of the public interest. The planning authority should, of course, reject such an application, but the local authority which is being tempted by a high bid to give its approval to over-exploitation of the site, may itself be the planning authority. There is also a strong temptation, to which some local authorities have

succumbed, to play one developer and his architect off against another, even to the extent of picking the brains of each of the developers' architects (without, however, paying for their services) and allowing the ideas submitted on behalf of one developer to be made known to, and developed by another. Local authorities must at the very least observe a proper code of professional practice in this manner. Many of these developments, moreover, are taking place in the smaller towns, and even in some large ones, whose authorities lack first-rate financial, architectural and technical advice.

Much of the difficulty arises because the planning authorities have not prepared a comprehensive development plan for central areas ripe for development. Private developers often propose major development schemes, profoundly affecting the future of a town, before the planning authority has given sufficient thought to the planning problems of the area. Too many authorities are content to wait, Micawber-like, for a developer to turn up, and are then prepared to give him almost *carte blanche* because the basic planning studies have not been done. Authorities which lack capital and highly qualified staff are being tempted by the offers of firms of estate agents and 'town developers' armed with glossy brochures to 'advise' them on central area developments. These firms are often acting, in effect, not only as private developers whose motive is financial, but also as town planning consultants and architects. What these towns require, but cannot get from this source, is disinterested professional advice, and the results are only too likely to reflect the lack of this advice.

In the opinion of the RIBA the present system is harmful because it fails to draw a proper distinction between the duty of the public authority and the legitimate concerns of private developers. Local authorities should be impressed with the importance of drawing up in good time comprehensive development plans that are sufficiently firm to secure the basic planning principles that concern the public – kind and quantity of uses, circulation of vehicles and pedestrians, three-dimensional form and character, open spaces and other public amenities – and yet sufficiently flexible to meet the varying interests of the developers. Such a plan is the essential prerequisite to the consideration of individual projects, and it is the duty of the public authority, not of private profit-seeking concerns, both to prepare such a plan and to ensure that it does not present subsequent developers with conditions that are totally unacceptable. There will be ample scope within such a plan for varied treatment of individual sites, and local authorities which are inviting tenders from developers should make it clear, after consulting the planning authority, how much scope for variation there is.

More often than not, however, where local authorities wish to dispose of a site for development, no comprehensive development plan has been prepared. In these cases it is entirely wrong for the planning function to be delegated, in effect, to developers interested primarily in their own financial returns. The authority, in consultation with the planning authority, must by the most suitable means prepare a plan for the site, and for as much of the surrounding areas as is necessary to create a large enough planning unit to permit of comprehensive treatment.

The RIBA has therefore worked out some proposals to provide a realistic alternative to the system of 'competition by tender' that will enable local authorities both to realise a good price for their land and to obtain a first-class design that incorporates essential public amenities and traffic or other improvements, and of which the authorities and the public can be proud.

The aim of these proposals is to separate the financial from the architectural decision so that the local authority can be free to choose the best design without having to reject an attractive bid. There are two essential ingredients in the proposals. The first is that, before any financial negotiations take place, before any offers are invited or tenders received, the master plan for the area must be drawn up. The second is that so far as possible any development scheme ought to be conceived and carried out under the direction of one architect.

The RIBA therefore, recommends to local authorities the following alternative courses of action, which may or may not include the organisation of an architectural competition under RIBA regulations:

## (a) For Small Developments

For small developments where an RIBA competition could not be expected to attract sufficient entries to justify the cost, the local authority should appoint one architect for the entire work. He would work in close collaboration with the planning authority in preparing his design. Developers would then be invited to put in competitive bids on the basis of his design, but would not be permitted to employ their own architects. While this might deter some developers, the RIBA is satisfied from consultations with developers and their architects that a sufficient number of developers would be prepared to tender on this basis.

## (b) For Larger Developments

For larger developments either of the following alternatives are recommended:

(*i*) *Where there is no architectural competition*

Where, in large schemes, an architectural competition is for some reason not thought to be desirable, an architect – either the local authority's Chief Architect or a consultant in private practice – should be appointed to draw up a three-dimensional master scheme, sufficiently flexible to take account of the developer's requirements. It should normally be a condition of his appointment that the consultant would work with advisers expert in planning, finance and/or commerce, and in close collaboration with the planning authority. Competitive bids would then be obtained from developers, the work being executed by the winning developer's own architect. The consultant would be debarred from assisting any of the competing developers in any way.

(*ii*) *Where there is an architectural competition*

(a) The local authority would promote an architectural competition for the development of the site, under RIBA competition regulations. In accordance with these regulations the assessor, who would select the winning design, would be an architect or, if there was more than one assessor, a majority would be architects. Competitive bids would be invited from developers for the execution of the winning design, the successful developer being required to appoint the winner of the architectural competition to execute the work on the basis of normal architect-client relationship.

(b) Alternatively, the winning architect would be appointed the architect for buildings to be erected by the local authority, and consultant architect for the remainder of the development, the successful developer employing their own architects as executive architects for their own buildings.

In both cases, it would normally be a condition of his appointment that the assessor would work with advisers expert in planning, finance and/or commerce, and in close collaboration with the planning authority. He would be debarred by the RIBA competition regulations from assisting any of the competing developers in any way.

The RIBA invites all local authorities which are considering the redevelopment of any part of the land in their ownership by private developers to discuss this problem with them. The RIBA is convinced that the alternatives it now proposes can assist local authorities to secure good development, in which the right balance is struck between the financial and the other considerations involved.

# Conditions of Engagement and Scale of Professional Charges

The new Scale becomes effective on 1 October 1960 and will be applicable to engagements entered into between client and architect on and after that date.

The Council have completed their review of the comments received from the general body of members on the Draft Conditions of Engagement and Scale of Professional Charges, published in the JOURNAL for December 1959.

Some alterations have been made to the draft resulting from these comments, and the Conditions and Scale as finally approved by the Council are published below. Members are asked to note the following amendments:

(1) The Conditions and Scale were formerly distinguished by the headings 'A' and 'B'. The Conditions are now lettered; the Scale remains numbered as before and the headings are deleted.

(2) The Architect must inform the Client if the total authorised expenditure is likely to be exceeded and if the contract period is likely to be varied (Condition D).

(3) It is now explicitly stated that members may charge a higher fee than that prescribed in the Scale subject to prior agreement (Condition K).

(4) The scale of percentage fees and time charges have been revised (Clauses 1(i), 7 and 9).

Members are reminded that under Clause 2 (ii) the Architect must agree the percentage fee for alteration work where this is higher than the scale fee for new works before the work commences. Without such an agreement it would not appear that the Architect could recover more than the scale fee for new works.

## CONDITIONS OF ENGAGEMENT

A. Members of the Royal Institute of British Architects are governed by the Charters, Bye-laws and Code of Professional Conduct of the Royal Institute.

B. The Architect shall give such periodical supervision and inspection as may be necessary to ensure that the works are being executed in general accordance with the contract; constant supervision does not form part of the duties undertaken by him.

C. In cases where constant superintendence is required a Clerk of Works shall be employed for this purpose. He shall be nominated or approved by the Architect, and appointed and paid by the Client. He shall be under the Architect's direction and control.

D. The Architect shall not make any material deviation, alteration, addition to or omission from the approved design without the knowledge and consent of the Client, and shall inform the Client if the total authorised expenditure is likely to be exceeded and if the contract period is likely to be varied.

E. The Architect has authority to give orders on behalf of the Client if such are necessitated by constructional requirements provided that the Client shall be immediately notified thereof.

F. The Architect shall, if requested to do so, at the completion of the work, prepare small scale drawings thereof showing the main lines of drainage and other essential services as executed.

G. The following Architects' charges do not include for Surveyors' work for which see Clauses 10 to 17 which are those of the Royal Institution of Chartered Surveyors adopted by the Royal Institute of British Architects.

H. The employment of Consultants shall be at the Architect's discretion in agreement with the Client, and Consultants shall be nominated or approved by the Architect, and appointed and paid by the Client. Where it is agreed to retain the services of Consultants, the Architect's fee may by prior written agreement be reduced, but in no case shall the reduction exceed one-third on the cost of the work upon which the services of the Consultants are retained, provided always that the Architect's fee on the cost of the whole scheme shall not be reduced by more than one-sixth.

I. An engagement entered into between the Architect and the Client may be terminated at any time by either party upon reasonable notice being given.

J. Copyright in all drawings and in the work executed from them will remain the property of the Architect.

K. Under these Conditions of Engagement, the fees and charges payable to the Architect shall be in accordance with the following Scale of Charges, unless a higher charge is agreed between Architect and Client when the former is commissioned.

## SCALE OF CHARGES

### 1. New Works

For taking the Client's instructions, preparing sketch designs, making approximate estimate of cost, submitting applications for licences, Town Planning, Bye-law and/or Building Act approvals, preparing working drawings, specification or such particulars as may be necessary for the preparation of bills of quantities by an independent Quantity Surveyor, or for the purpose of obtaining tenders, advising on tenders and preparation of contract, nominating and instructing Consultants (if any), preparing for the use of the Contractor, two copies of all drawings, specification or other particulars and of such further details as are necessary for the proper carrying out of the works, giving general supervision as defined in the Conditions of Engagement, issuing certificates for payment, certifying accounts and preparing such drawings as may be required under Condition F, exclusive of the services enumerated in Clauses 4 and 10, the charge is to be a percentage on the total cost of all executed works as follows:

(i)

| *Total Cost of Executed Works* | *Percentage Fee* |
|---|---|
| Up to £700 | 10 per cent |
| £700–£1,600 | 9½ per cent with minimum of £70 |
| £1,600–£2,500 | 9 per cent with minimum of £152 |
| £2,500–£3,400 | 8½ per cent with minimum of £225 |
| £3,400–£4,300 | 8 per cent with minimum of £289 |
| £4,300–£5,200 | 7½ per cent with minimum of £344 |
| £5,200–£6,100 | 7 per cent with minimum of £390 |
| £6,100–£7,000 | 6½ per cent with minimum of £427 |
| Over £7,000 | 6 per cent with minimum of £455 |

(ii) The fees set out in the Scale of Charges are in all cases exclusive of the cost of all prints and other reproductions of drawings and documents, travelling and hotel expenses and other reasonable disbursements.

(iii) When work is executed wholly or in part with old materials, or where material, labour or carriage is provided by the Client, the percentage shall be calculated as if the works had been executed wholly by the Contractor supplying all labour and materials.

(iv) In addition to a percentage on the total cost of executed works, the Architect is entitled to charge in respect of all works included in the tenders, but subsequently omitted, two-thirds of the charge which would have been payable had they been executed.

### 2. Variations of Charges

The above Scale of Charges is subject to variation by prior written agreement as to the percentage fee between Client and Architect in respect of the following:

(i) Repetitive Works:
In the case of extensive works of a simple repetitive character the charge may be reduced by up to one-sixth.

(ii) Works to Existing Buildings:
In the case of works to existing buildings a higher percentage is chargeable, not exceeding twice the amount payable under the Scale for new works of the same cost, and depending upon the intricacy of the work involved.

(iii) Special Works:
In works involving special services in respect of fittings, furniture, decorations, exhibitions, garden or landscape design, special fees appropriate to the circumstances are chargeable.

**3. Partial Services**

In cases where the Architect performs partial services for any reason, including the abandonment, deferment, substitution or omission of any project and/or works, or part thereof, or if the services of the Architect are terminated, the charges in respect of the services performed are as follows:

(i) For taking Client's instructions and preparing preliminary sketch designs to illustrate possibilities of a site or cost of a scheme the charge is on *quantum meruit*.

(ii) For taking Client's instructions, preparing sketch designs sufficient to indicate the Architect's interpretation of the Client's instructions (but not in detail adequate to enable bills of quantities to be prepared), making approximate estimate of cost and making application for outline Town Planning approval the charge is on *quantum meruit* and shall not exceed one-sixth of the percentage due under Clause 1 or 2 (as the case may be) on the Architect's estimated cost of such works.

(iii) For taking Client's instructions, preparing sketch designs sufficient to indicate the Architect's interpretation of the Client's instructions, making approximate estimate of cost and preparing drawings and particulars sufficient to enable applications to be made for Town Planning, Bye-law and/or Building Act approvals, the charge is one-third of the percentage due under Clause 1 or 2 (as the case may be) on the Architect's estimated cost of such works.

(iv) For taking Client's instructions, preparing sketch designs making approximate estimate of cost and preparing working drawings, specification, or such particulars as may be necessary for the preparation of bills of quantities by an independent Quantity Surveyor, or for the purpose of obtaining tenders, the charge is two-thirds of the percentage due under Clause 1 or 2 (as the case may be) on the Architect's estimated cost of such works.

(v) If the project or any part thereof is abandoned or deferred or any part omitted or substituted on the Client's instructions during the preparation of the working drawings, the charge is two-thirds of the appropriate percentage on the Architect's estimated cost of such works less a *quantum meruit* charge for bringing the working drawings and other particulars up to the stage defined in Clause 3 (iv).

(vi) In all cases where fees are assessed on the basis of *quantum meruit* regard must be had to all relevant factors.

**4. Services not included in the Scale**

Charges assessed on the basis of *quantum meruit* in accordance with Clause 3 (vi) shall be payable in respect of any additional services involved:

(i) In advising as to the selection and suitability of sites. Negotiating as to sites or buildings, surveying sites or buildings and taking levels and making surveys, measurements and plans of existing buildings.

(ii) In preparing for the use of the Client special drawings in addition to working drawings, and preparing drawings for negotiations with ground landlords, adjoining owners, public authorities, licensing authorities or others.

(iii) In amending working drawings or preparing new working drawings to give effect to alterations of the Client's instructions or changes in design due to causes outside the control of the Architect.

(iv) In negotiations arising from applications for licences, Town Planning, Bye-law and/or Building Act approvals and negotiations in connection with Party Walls, Rights of Light and other easements, reservations or restrictions.

(v) Arising out of delay in building operations due to causes outside the control of the Architect.

**5. Mode and Time of Payment**

The Architect is entitled to payment in stages as follows:

(i) On the completion of sketch designs, one-sixth of the total fees payable.

(ii) On the completion of the drawings and particulars sufficient to enable applications to be made for Town Planning, Bye-law and/or Building Act approvals, one-third of the total fees payable less the amounts of any payments already received by the Architect pursuant to sub-clause 5 (i).

(iii) During the preparation of working drawings and other particulars, instalments consistent with the amount of work completed by the Architect.

(iv) On completion of the said working drawings and other particulars, two-thirds of the total fees payable less the amount of any payments already received by the Architect pursuant to sub-clauses 5 (i), 5 (ii) and 5 (iii).

(v) The remaining one-third of the total fees to be paid by instalments as the building work proceeds consistent with the value of the said building work as certified from time to time.

**6. Inspections and Reports**

For making inspections, preparing reports or giving advice on the condition of premises, the charge is on *quantum meruit* in accordance with Clause 3 (vi).

**7. Litigation and Arbitration**

For qualifying to give evidence, settling proofs, conferences with Solicitors and Counsel, attendance in Court or at Arbitrations or Town Planning Inquiries or before other tribunals, and for services in connection with litigation, the charge is based on the time occupied at the minimum rate of 3 guineas an hour to which shall be added charges for Assistants' time, out-of-pocket expenses and other disbursements.

Architects acting as Arbitrators are recommended to base their charges on the total time occupied in dealing with a case at the minimum rate of 3 guineas an hour to which shall be added out-of-pocket expenses and other disbursements (minimum fee 20 guineas).

**8. Travelling Time**

An additional charge may be made by prior written agreement if the work should be at such a distance as to lead to an exceptional expenditure of time in travelling.

**9. Time Charges**

In cases in which charges are based upon time occupied the minimum fee for Principals' time is 2 guineas an hour, to which shall be added charges for Assistants' time and office overheads thereon.

*The following Clauses are in accordance with the Scales of Professional Charges of the Royal Institution of Chartered Surveyors and are adopted by the Royal Institute of British Architects.*

**10. For Preparing Bills of Quantities and Valuing Work Executed**

The fees set out below are in all cases exclusive of travelling

and other expenses, and cost of reproduction of bills of quantities and other documents, which are chargeable in addition at net cost.

The scale of charges for the preparation of bills of quantities set out in I (*a*) and III (*a*) below is an overall scale, based upon the inclusion of all provisional amounts.

The measurement and valuation of variations and the preparation of statements of account at the conclusion of the works are separate services for which the scale later provides.

Copyright in bills of quantities and other documents prepared by the quantity surveyor is reserved.

In cases where any of the materials used in construction are supplied by the building owner, the appropriate percentage charge is to be made upon the estimated or actual value thereof.

*I. Lump Sum Contracts: Architectural Work*

(*a*) Preparing bills of quantities:

(*i*) Basic Scale

2½ per cent upon the estimated cost of the work up to £20,000, with a minimum fee of £75.
2 per cent upon the balance above £20,000.

(ii) *Works of Alteration*

The rates in sub-paragraph (i) shall be increased by ½ per cent in respect of works of alteration or repair, or of those sections of the work which are mainly works of alteration or repair.

(iii) *Generally*

Fees are to be calculated upon the basis of the accepted tender for the whole of the work. In the event of no tender being accepted, fees are to be calculated upon the basis of the lowest original *bona fide* tender received. In the event of no tender being received, the fees are to be calculated upon a reasonable valuation of the work, based upon the original bills of quantities.

If for any reason a tender, when received, is reduced before acceptance, fees are to be calculated upon the unreduced amount of such tender; and an additional fee, calculated in the same manner as is prescribed in paragraph (*b*) below with respect to fees for the measurement of variations, is chargeable for arriving at the amount by which the tender is reduced. In calculating the amount on which fees are payable the total of the credit bill (if any) and the total of any alternative bills are to be added, but any omission bill forming part of an alternative bill is not to be included unless actual measurement is necessary to arrive at the omission.

(*b*) Preparing accounts of variations upon contracts:
(i) 2½ per cent upon the gross amount of the additions: and
(ii) 1½ per cent upon the gross amount of the omissions less the value of provisional and prime cost sums, provisional quantities, and complete sections or trades omitted direct from the bill of quantities without reference to the original dimensions.

*Note: The fee for preparing accounts of variations includes, where necessary, pricing and agreeing totals with contractors. The fee of 2½ per cent on the additions is an overall fee based on the inclusion of all nominated sub-contractors' and suppliers' accounts where these involve measurement or checking of quantities (including any day-works). The value of nominated sub-contractors' and suppliers' accounts where these do not involve measurement or checking of quantities (but only checking with lump sum estimates), shall be deducted from the total on which the percentage fee is charged and a charge shall be made on the basis of time involved. In no case shall a charge be made for the inclusion on the additions side of the accounts of amounts payable to nominated sub-contractors or suppliers where the quantity surveyor has neither examined nor checked their accounts.*

(iii) 2½ per cent upon the aggregate of the amount of the increases and/or decreases under any fluctuation of price (labour and materials) clauses of the contract.

(*c*) The rates in sub-paragraphs (*a*) (i), (*b*) (i) and (*b*) (ii) above shall be increased by 2 per cent in respect of works of redecoration or associated minor repairs.

(*d*) (i) Pricing bills of quantities:
¼ per cent on the total of the bill.
(ii) Pricing, negotiating and agreeing prices with the contractor:
½ per cent on the total of the bill.

(*e*) Preparing approximate estimates based on measurement:
½ per cent upon the estimated cost.

(*f*) Surveying works in progress, taking particulars and reporting for interim certificates:
½ per cent upon the amount of each valuation less the amount of any previous valuation or valuations upon which fees shall have been paid.

*II. Schedule Contracts: Architectural Work*

(*a*) Preparing, pricing and agreeing schedules of prices:
A charge to be based upon the time involved.

(*b*) Preparing final accounts, including pricing and agreeing totals:
(i) 2½ per cent upon the gross amount of the account, less any sums included for fluctuations.
(ii) 2½ per cent upon the aggregate of the amount of the increases and/or decreases under any fluctuation of price (labour and materials) clauses of the contract.

*Note: The fee for preparing accounts is an overall fee based on the inclusion of all nominated sub-contractors' and suppliers' accounts.*

(*c*) The rates in sub-paragraph (*b*) (i) shall be increased by ½ per cent in respect of works of alteration or repair, or of those sections of the work which are mainly works of alteration or repair.

(*d*) The rates in sub-paragraph (*b*) (i) shall be increased by 2 per cent in respect of works of redecoration or associated minor repairs.

(*e*) Preparing approximate estimates based on measurement:
½ per cent upon the estimated cost.

(*f*) Surveying works in progress, taking particulars and reporting for interim certificates:
½ per cent upon the amount of each valuation less the amount of any previous valuation or valuations upon which fees shall have been paid.

*III. Contracts Based on Bills of Approximate Quantities: Architectural Work*

(*a*) Preparing bills of approximate quantities suitable for obtaining competitive tenders which will provide a schedule of prices and a reasonably close forecast of the cost of the works, but subject to complete remeasurement:
1¼ per cent upon the estimated cost of the work up to £20,000. 1 per cent upon the balance above £20,000.

(*b*) Preparing final accounts, including pricing and agreeing totals:
(i) 2½ per cent upon the gross amount of the account, less any sums included for fluctuations.
(ii) 2½ per cent upon the aggregate of the amount of the increases and/or decreases under any fluctuation of price (labour and materials) clauses of the contract.

*Note: The fee for preparing accounts is an overall fee, based on the inclusion of all nominated sub-contractors' and suppliers' accounts.*

(*c*) The rates in sub-paragraph (*b*) (i) shall be increased by ½ per cent in respect of works of alteration or repair, or of those sections of the work which are mainly works of alteration or repair.

(*d*) The rates in sub-paragraph (*b*) (i) shall be increased by 2 per cent in respect of works of redecoration or associated minor repairs.

(*e*) (i) Pricing bills of quantities:
¼ per cent on the total of the bill.
(ii) Pricing, negotiating and agreeing prices with the contractor:
½ per cent on the total of the bill.

(*f*) Preparing approximate estimates based on measurement:
½ per cent upon the estimated cost.

(*g*) Surveying works in progress, taking particulars and reporting for interim certificates:
½ per cent upon the amount of each valuation less the amount of any previous valuation or valuations upon which fees shall have been paid.

*IV. Prime Cost Contracts*

(*a*) Checking prime costs and preparing final accounts of works executed: Where the cost is £5,000 or under:
2 per cent up to and including £2,500.
1½ per cent on the cost exceeding £2,500 up to and including £5,000.
Where the cost exceeds £5,000:
1¼ per cent all through, but with a minimum fee of £87 10*s.* 0*d.*

*Notes:* (*i*) *The above scale does not apply to work necessitating measurement which is to be paid for separately at the appropriate rates as hereinbefore provided.*
(*ii*) *Where the employment of checkers on the site is required, the cost is chargeable in addition to the fee.*

(*b*) Surveying works in progress and valuing and reporting for interim certificates:
½ per cent upon the amount of each valuation less the amount of any previous valuation or valuations upon which fees shall have been paid, or alternatively a charge to be based upon the time involved.

**11. Valuation of Freehold or Leasehold Properties**

(*a*) *Freehold Property*

One guinea per cent on the first £1,000; half a guinea per cent on the next £9,000; and a quarter of a guinea per cent on the residue of the valuation of the freehold.
(Minimum fee, 7½ guineas.)

(*b*) *Leasehold Property*

One guinea per cent on the first £1,000; half a guinea per cent on the next £9,000; and a quarter of a guinea per cent on the residue of the valuation of the leasehold,
*And in addition*
7 guineas per cent on the first £300; 4 guineas per cent on the next £700; 3 guineas per cent on the next £1,500; and 2 guineas per cent on the residue of the annual rent payable under the lease.
(Minimum fee, 7½ guineas.)

*Note: If, on a valuation for mortgage, an advance is not made, two-thirds of the above charge may be made, with a minimum fee of 7½ guineas, provided that the intending mortgagee is informed of the arrangement.*

**12. Dilapidations (Land, Buildings and Chattels)**

(*a*) For preparing a schedule for the landlord and settling the amount if required.
7½ guineas per cent on the first £1,000; and 5 guineas per cent on the residue of the amount of the settlement, or of the cost of the works executed by the lessee.
(Minimum fee, 7½ guineas.)

(*b*) For acting on behalf of the tenant in connection with a schedule and settling the amount if required.
7½ guineas per cent on the first £500; and 5 guineas per cent on the residue of the amount claimed by the landlord, or (if that amount has not been quantified) of the estimated cost of complying with the landlord's schedule.
(Minimum fee, 7½ guineas.)

*Notes:* (*i*) *In either of the foregoing cases, if the amount of payment for dilapidations is specially limited by statute or by agreement between the parties, a fee on the basis of quantum meruit.*
(*ii*) *In those cases where the responsibility to comply with repairing covenants rests with the landlord and it is the tenant who serves a schedule of dilapidations, paragraph* (*a*) *above applies when acting on behalf of the tenant, and paragraph* (*b*) *when acting on behalf of the landlord, mutatis mutandis.*
(*iii*) *In the case of agricultural dilapidations, the estimated value of any materials which the landlord agrees to supply should be included in the amount on which the fee is based.*

**13. Repairs to and Maintenance of Property**

For taking particulars on site and writing specifications, including supervision, if required.

10 per cent on the amount expended or, alternatively, a charge to be based upon the time involved.

*Note: In cases where any of the materials used in construction are supplied by the owner, the percentage charge is to be made on the estimated or actual value thereof.*

**14. The Laying Out or Development of Estates**

The charge for the preparation of a general development scheme, or for town and country planning work, must necessarily vary with the character and size of the estate.

For road construction – the preparation of drawings and specification, obtaining the approval of the authorities, obtaining tenders and superintending the construction of roads and sewers.

5 to 7½ per cent upon the outlay, according to the circumstances.

If the work is not proceeded with: Two-thirds of the above fee.

**15. For Approving Plans submitted by Lessees and Inspecting Buildings during progress**

| | |
|---|---|
| On the first £500 | 2 guineas per cent |
| On the next £1,500 | 1½ guineas per cent |
| On the next £18,000 | 1 guinea per cent |
| On the next £80,000 | ½ guinea per cent |
| Residue | ¼ guinea per cent. |

(Minimum fee, 7½ guineas.)

*Note: This scale is intended to apply to normal cases. It should be applied with discretion and may be varied in either direction to meet exceptional circumstances.*

**16. Work under the Lands Clauses Consolidation Act or other Acts for the Compulsory Acquisition of Property**

(*a*) To the valuer who prepares the case. (Including negotiation for a settlement, where required):
The scale set out below.

(*b*) To any additional valuer who qualifies to give evidence:
Three-quarters of the scale set out below.

| Amount £ | Fee Gns. | Amount £ | Fee Gns. | Amount £ | Fee Gns. | Amount £ | Fee Gns. |
|---|---|---|---|---|---|---|---|
| 100 | 10 | 2,400 | 50 | 5,600 | 82 | 8,800 | 114 |
| 200 | 14 | 2,600 | 52 | 5,800 | 84 | 9,000 | 116 |
| 300 | 18 | 2,800 | 54 | 6,000 | 86 | 9,200 | 118 |
| 400 | 22 | 3,000 | 56 | 6,200 | 88 | 9,400 | 120 |
| 500 | 26 | 3,200 | 58 | 6,400 | 90 | 9,600 | 122 |
| 600 | 28 | 3,400 | 60 | 6,600 | 92 | 9,800 | 124 |
| 700 | 30 | 3,600 | 62 | 6,800 | 94 | 10,000 | 126 |
| 800 | 32 | 3,800 | 64 | 7,000 | 96 | 11,000 | 136 |
| 900 | 34 | 4,000 | 66 | 7,200 | 98 | 12,000 | 146 |
| 1,000 | 36 | 4,200 | 68 | 7,400 | 100 | 14,000 | 166 |
| 1,200 | 38 | 4,400 | 70 | 7,600 | 102 | 16,000 | 186 |
| 1,400 | 40 | 4,600 | 72 | 7,800 | 104 | 18,000 | 206 |
| 1,600 | 42 | 4,800 | 74 | 8,000 | 106 | 20,000 | 226 |
| 1,800 | 44 | 5,000 | 76 | 8,200 | 108 | *One Guinea per cent on the remainder* | |
| 2,000 | 46 | 5,200 | 78 | 8,400 | 110 | | |
| 2,200 | 48 | 5,400 | 80 | 8,600 | 112 | | |

Where works are negotiated by the surveyor, the cost of such works, and any amount set off in respect of betterment, should be added to the amount of the settlement for the purpose of calculating the fee chargeable under the scale set out above.

*Notes:* (*i*) *This scale does not apply to arbitrators or umpires.*
(*ii*) *This scale is exclusive of attendance in Court or before the Lands Tribunal or umpires or at arbitrations, in respect of which the minimum fee is 20 guineas a day or part of a day.*
(*iii*) *Where the compensation is between the figures given in the left-hand columns of the table, if the settlement is under £1,000 the fee on the next higher amount applies. If the settlement is over £1,000 the fee is that shown in the table against the next lower amount plus one guinea per cent on the remainder, fractions of £100 being taken as £100.*
(*iv*) *For settlements under £100 – 10 guineas per cent with a minimum fee of 5 guineas.*

**17. For Land Surveying and the Preparation of Plans and Maps**

Fee by arrangement depending on the intricacy of the work.

# The UK School at the Triennale

Sir Basil Spence, Past-President, speaking in Canada last June said: 'Probably the greatest achievement in British architecture since the war has been the school building programme . . . at a time of rapidly rising prices, our schools' architects were able to improve design, raise standards and keep down prices. They saved the Government £200m in ten years, or if you look at it another way, they were able to give the people hundreds of new schools which would otherwise have been swallowed up in waste and inefficiency.'

The United Kingdom school erected at the Milan Triennale is a typical three-class primary school for about 100 children. It contains considerably more teaching accommodation per place than its counterpart of ten years back, but allowing for the changed value of money, costs 50 per cent less. The school, which is valued at about £19,000, will be presented to the Italian Government when the Triennale closes on 4 November, for re-erection on a new housing estate in Milan.

A photograph of the School is reproduced on the cover.

The majority of the component parts, including the steel-frame by Brockhouse Steel Structures Ltd, have been given by the manufacturers.

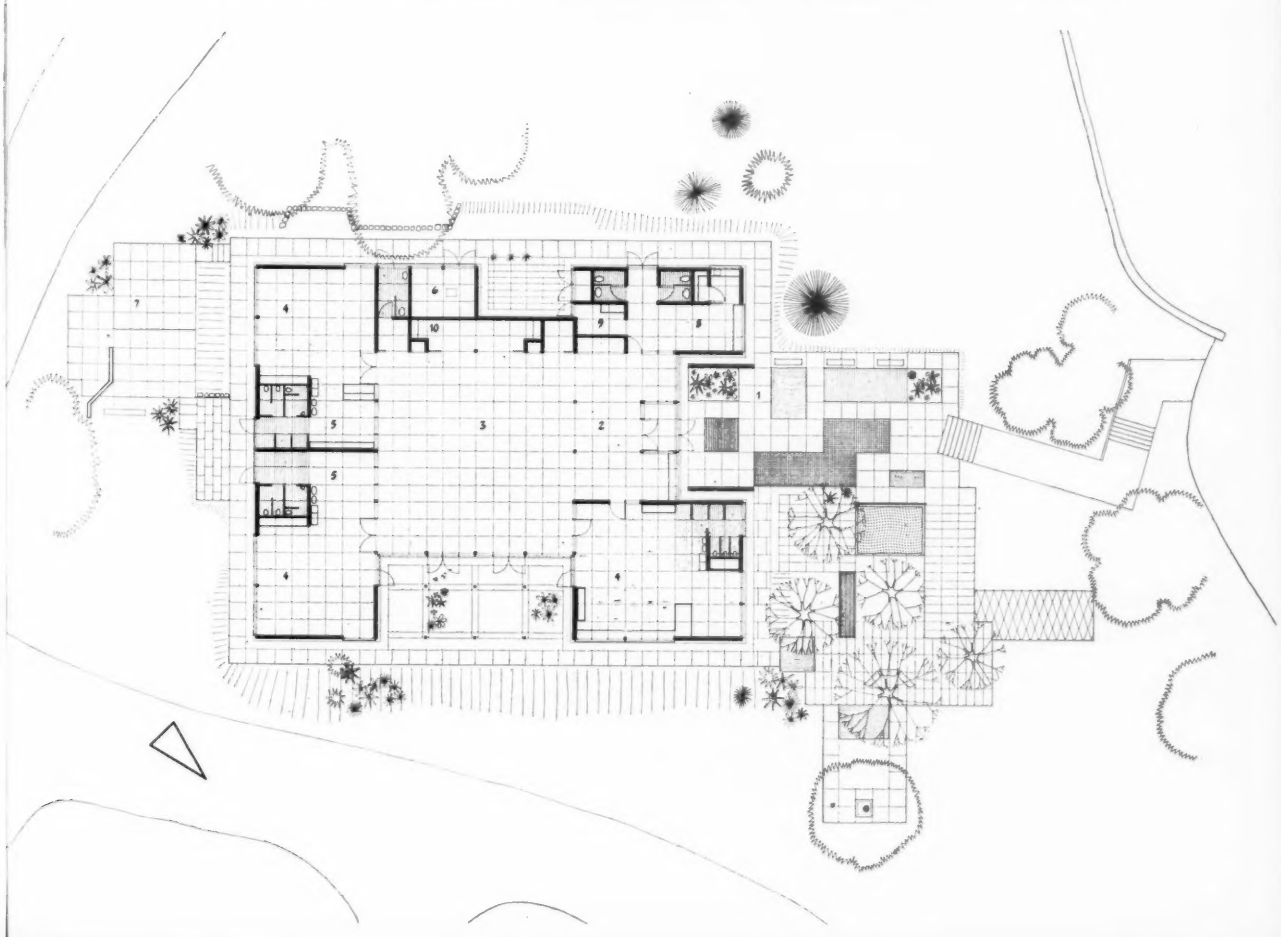
The school is built on the CLASP prefabricated system (mentioned by several speakers at the Manchester Conference), consisting of standard components manufactured on a programme basis in order to obtain the economic advantages of industrial quantity production. The system is sponsored by a consortium of nine local authorities and one Government department.

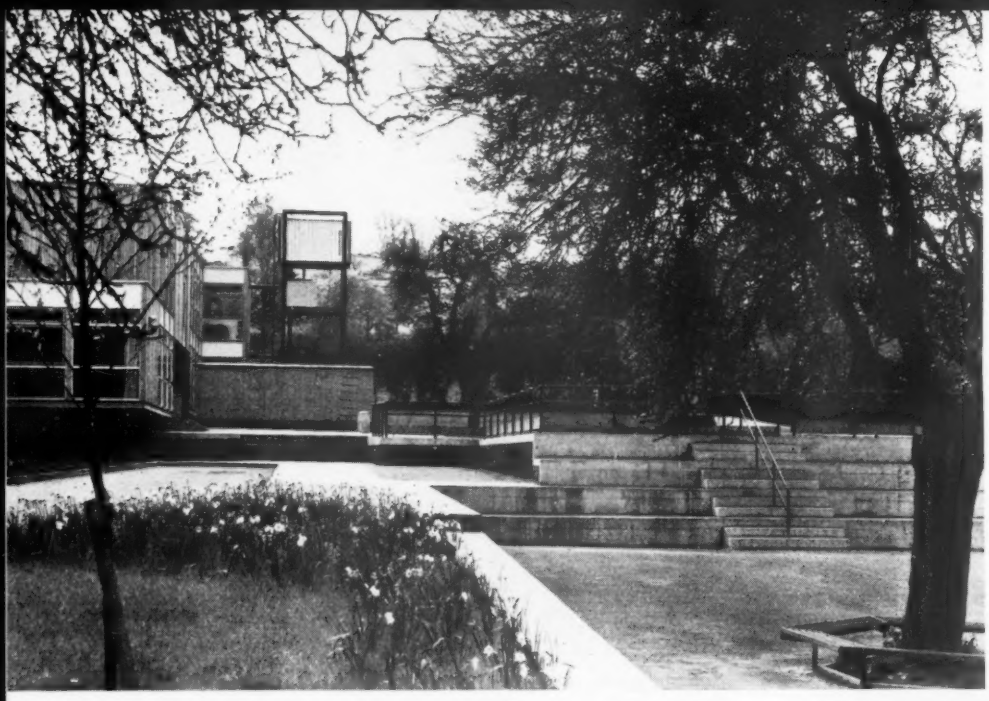
The chief architects of the sponsoring authorities are responsible for the general design of the system, but each building is individually designed on the basis of a 3 ft. 4 in. planning grid. The component parts standardised on a 4 in. module.

The Milan exhibit was designed by W. D. Lacey, AMTPI [*A*], County Architect, Nottinghamshire, assisted by L. H. Blockley [*A*] and Rex Goodwin [*A*]. The quantity surveyors were J. Scott, FRICS, and J. Marshall, ARICS. The contractors were C.D. Productions Ltd.

KEY

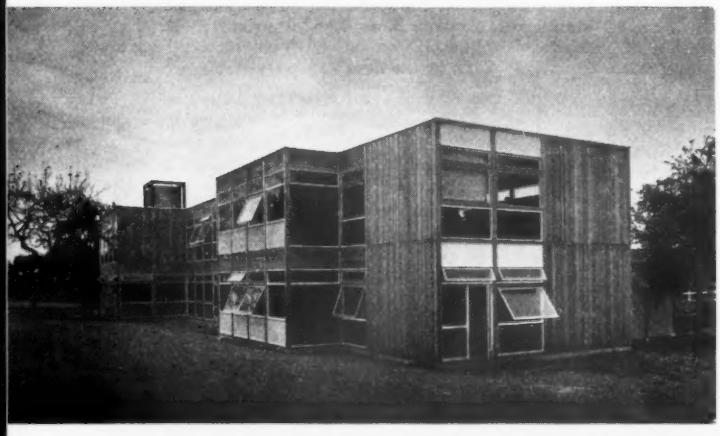
| | | | |
|---|---|---|---|
| 1 | Entrance court | 6 | Boiler house |
| 2 | Entry hall | 7 | Play court |
| 3 | Assembly hall | 8 | Staff room |
| 4 | Classroom | 9 | Store |
| 5 | Craft space | 10 | PE store |

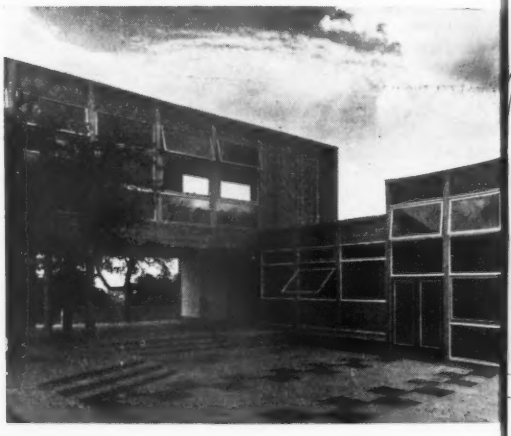


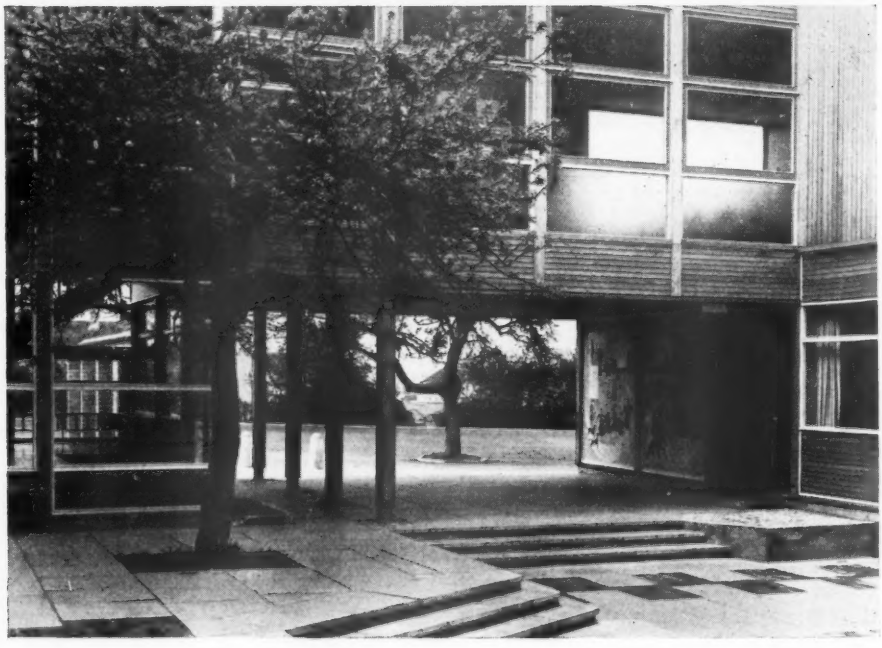


## KEY

- **a** two-storey junior classroom block
- **b** junior admin.
- **c** junior assembly hall
- **d** kitchen
- **e** dining-room
- **f** infant classrooms
- **g** infant assembly hall
- **h** infant admin.
- **i** boiler house
- **j** kitchen yard
- **k** junior classrooms and cloaks, phase II ext.
- **l** dining-room, phase II ext.
- **m** infant classrooms and cloaks, phase II ext.
- **n** junior playground
- **p** cycle storage
- **r** playing field
- **s** car parking
- **t** infant playground
- **u** new tree planting
- **x** existing trees







Top: View looking towards Junior entrance and playground terrace

Centre L: Junior classrooms Centre R, and bottom: Junior courtyard and covered way showing mural

# The Moat Schools

The Moat Infant (240) and Junior (320) Schools, Juniper Avenue, Matson Lane, Gloucester, Architect Mr J. V. Wall [*A*], City Architect, Gloucester, were awarded the RIBA Architecture Bronze Medal in the area of the Wessex Federal Society for the three-year period ending 31 December 1959.

Assisting the City Architect were: Mr R. Fitzsimmons, Assistant Architect in Charge; Mr T. W. Gregory [*A*], Deputy City Architect (who has been succeeded by Mr R. A. Agascar [*A*]) and Mr J. C. West, Senior Architect in charge of Schools Section.

The site is a long, narrow green wedge through a large housing estate. It was decided to retain the green wedge with as little visual obstruction as possible, and the school is designed to 'retreat' rather than 'advance' in relation to its influence outside the site.

After examining many 'systems', since erection time had to be reduced, the Medway Mk V, developed by the Architects' Co-Partnership, was adopted with a number of additional infil materials.

The schools are self-contained, linked at one communal area – the dining-room. Scale in relationship to the children has been carefully considered, and all classrooms have a ceiling height of 8 ft. 3 in.

The courtyard is a focal point, and instead of being dead, leads everywhere, and is in constant use.

Two original works of applied decoration, carried out by art students, have been incorporated.

The slope of the site offered exciting visual possibilities, both internal and external, which have been exploited, and a large number of additional trees have been planted.

To complete the school rather than leave it bare for future piecemeal gardening, planting is of the type which the children understand more readily than nurserymen and consists of daffodils for naturalising, bluebells, wood sorrel, primroses, blue flag iris, fern, bracken and dogwood, etc.

'The British school. The feeling of permanence is enhanced by the way the architects have developed those portions of the site adjacent to the building'

'Mock-up of a Mexican prefabricated rural school which may well find emulators in parts of the world where industrialisation is only partially achieved'

'A particularly well-designed gas cooker'

*Photographs by the author*

Bar at the Palazzo del Arte

# Some Impressions of the Milan Triennale No. 12

To visit an exhibition for purposes of evaluating it almost a full week after the official opening, speeches, press hulabaloo and general hysteria have all died down is not only a restful way of accomplishing a difficult task, it enforces independent judgement and makes it easier to adopt an objective viewpoint.

The press officer receives you with polite boredom and informs you that the official catalogue has not yet come from the printers. Inquiries for certain local architects are greeted with outspread hands, 'Oh yes, Signor X was here right up to the opening. Now . . .' they don't know where he is. The truth of the matter is that it is holiday time in Milan, and many of the architects have already sent their wives and families to the mountains and lakes or else the seaside. Result, you have the place almost entirely to yourself, and except for a few tourists and the odd student, you are left to wander under the surveillance of the tired-looking attendants.

You make a quick run-through in order to take in a general impression. You note that there are some rather confusing alternatives regarding the 'itinerary' which your press hand-out tells you have been devised to lead you by orderly sequence past the various stages required to unfold the general 'theme'. But a little freedom of choice seems all to the good.

You exchange a word of badinage with the unfortunate chap who has been assigned the task of supervising the erection of the US prefabricated home which was supposed to have gone up in two days and is still perched up in the air on wobbly concrete piers waiting for the fill (and – oh my, the dust!) to be shovelled in underneath it. Knowingly he explains how he has already adopted the time-honoured method of dealing with the 'natives'. When he wants a thing done a certain way, he suggests the opposite.

Having been informed within 24 hours of your arrival that this year's Triennale is going to be a flop you obtain directions to the permanent offices of the Triennale and seek out one of the architects on whose shoulders rests the responsibility for the decision to inaugurate a new direction for the Triennale. An eminent critic and writer on modern architecture in Italy you feel it is only fair that he should be given a chance to make a comment on this subject. His comments are as follows: 1. They always say that. 2. There hasn't been that much of a change. 3. It's too early to tell anyway.

It amounts to this. Every three years the organisers of the Triennale have a big battle with the park authorities regarding the use of the Parco Sempiano as a site for the erection of pavilions and other structures. The perpetuation of this 'fair-type' of Triennale merely leads to fiercely individualistic competition for prestige on the part of each nation represented. A certain degree of general acceptance of what constitutes good contemporary design having been achieved some time back we are now faced either with more of the same (repetition) or change merely for the sake of change (reaction). Though the latter state of affairs would doubtless continue to have its appeal for those whose incomes derive from obsolescence – magazines, purveyors of 'trends', and certain types of consumer goods, it can scarcely be considered as a

basis for continuing Triennales. The policy-making committee therefore decided that a conscious effort should be made to shift the emphasis on to a level which would have far wider social implications.

Accordingly the outside pavilions were eliminated, and with two exceptions, everything was collected under one roof. The single, unifying theme of 'the home and the school' was established, and sub-committees were formed for dealing with every phase of the subject from town planning to the design of interiors. The degree of success attending the Triennale as a whole will be measured by the degree of success attained by the individual exhibitors. How successful have they been?

In attacking the problem of the total environment with respect to the home and the school much latitude is left between these two modes and at the extremities beyond each. At one end there is town planning, a subject which is hard to present in an eye-appealing way for the average lay person, at the other we find the individual artifact – a chair, a gas cooker (I saw one particularly well designed one at the show and wished I could take it home to my wife), cutlery and glass-ware, or even a painting. The object here was to show all these things in meaningful relationship to the main theme, not just as a collection of isolated objects.

The Italians themselves shouldered the responsibility for the section dealing with town planning. Their success may be measured by the fact that this reporter, after a few preliminary passes through a large section displaying drawings and photographs of work by various groups of architects (supposedly on a rotational basis) despairing of ever figuring out who did what and where was never under any strong compulsion to make a return visit. Possibly by this time things are better sorted out. The only other point in the whole exhibition where town planning was given the nod was a rather intriguing device which enabled you to get underneath a model of the old historic section of Milan and peer up through periscopes into the streets and piazzas. Presumably with a gadget like this you can study proposed changes from the pedestrians' eye-level before they are put into effect.

Visitors may differ about the extent to which the 16—is it?—participating countries have made any effort to interpret the 'theme'. Most of the furniture seems to have a familiar look, but this doesn't alter the fact that much of it is exceedingly well designed and in a fresh setting should do much to influence the choice in home furnishing of young Triennale-minded Milanese. This is especially true of the Scandinavian countries, but the Italians show that they can do it when they want to. On the other hand when they don't – the furnishings for an apartment in the centre of a big city is a fine case in point – their execrable taste is only to be rivalled by the French at their very worst.

It is natural that those exhibitors who have deliberately set out to show what is being done in their country about schools, such as Mexico, whose mock-up of a prefabricated rural school (furnished with desks and benches of positively medieval rusticity) may well find emulators in parts of the world where industrialisation is only partially achieved, or Belgium whose architects still seem preoccupied with problems of cross-ventilation, bilateral lighting, and a cross-sectional approach to design, will appear to have taken a more responsible attitude toward the Triennale's objective. Others may argue that everything that needs saying on the subject (of schools at any rate) is said more succinctly, poignantly, and in consequence unforgettably by the Swiss film which is projected simultaneously on to three adjoining screens and accompanied by music composed especially for this purpose. The sound of children's voices and tinkling piano tune haunted me for several days afterwards.

The decision to relegate those sections of the exhibition dealing with statistics, diagrams, etc., which are less popular in their appeal to those interior artificially-lit, unventilated and non-air-conditioned spaces where they would become even more unpopular has doubtless called for much heart-searching on somebody's part. In every other respect those responsible for the overall plan have skilfully exploited changes of floor level, contrast in lighting and volume, and the unfolding vistas so that the visitor (unless he happens to be an architect and is interested in such matters) is quite unaware of the manner whereby the stale legacy of Fascism comprising the Palazzo del Arte can no longer exercise its depressing effect, except from the outside.

The climax to all of this is, of course, the British school. This building dispels once and for all any doubts about the overwhelming advantages of prefabrication, modular co-ordination and all the rest. Although every item in its construction, with the sole exception of the material for the concrete raft foundation, was shipped from England, the entire structure was assembled by Italian workmen. If there ever was a time to talk about an 'international style' surely it must be now? In terms of cost, even for Italy with a different wage scale and living standards, the value achieved is sensational proof that a new approach to the economic side of building when taken in conjunction with new technical developments can point the way to tremendous savings.

Moreover there is nothing of an ephemeral nature about the structure. On the contrary the feeling of permanence is enhanced by the way the architects have developed those portions of the site adjacent to the building, so that these areas form an extension to the internal teaching space and play space.

It remains to be seen whether the US prefabricated 'home' is a serious rival for attention. If it is to be of more than academic interest presumably it will have been designed for export along with American automobiles and Coco-Cola. For on the US home market, where every consumer looks forward to a state of affluence where he will one day have his own custom-built California ranch-type hacienda, he is content in the meantime to make do with the usual, drab, stucco and frame box which he and his ancestors have built for the last 150 years.

Italians refuse to believe that the British school is typical of hundreds already built and in use throughout this country. Such scepticism would be far more justified in regard to the US prefab home.

JOHN G. GRACE, MA

# Practice Notes

Edited by Charles Woodward [*A*]

## IN PARLIAMENT

**Building Code for Tall Buildings.** Lord Saltoun: My Lords, may I ask leave to ask the Question standing in the name of my noble friend Lord Bossom.

The Question was as follows: To ask Her Majesty's Government whether, seeing the number of tall buildings over twelve storeys high that are now being built or contemplated, they will cause to be issued an appropriate building code for such constructions dealing with strength of materials, forms of construction, general safety, and so forth, such as has been found essential in the country where this type of building was mainly developed.

The Joint Parliamentary Secretary, Ministry of Agriculture, Fisheries and Food (Earl Waldegrave): My Lords, I understand from my right honourable friend the Minister of Housing and Local Government that preparatory work on reviewing the current model building bye-laws which were issued in 1952 by his Department is about to begin, and that the trend towards the construction of more high buildings will certainly be borne in mind in this connection.

Lord Taylor: My Lords, will Her Majesty's Government have regard to the fact that the Victoria Tower was built 100 years ago and still seems to be standing perfectly well, although considerably taller than most of these modern buildings?

A Noble Lord: Not perfectly well. (6 June 1960.)

## THE RIBA FORM OF CONTRACT: CLAUSE 21(d)

Since it is not always appreciated what powers the architect has with regard to early release of retention monies under the contract, the following Practice Note is reproduced from the JOURNAL of May 1958:

'Under the RIBA Form of Contract one-half of the retention fund is released on practical completion of the works and the other half is included in the final certificate. The issue of the final certificate is dependent on defects having been made good after the expiration of the Defects Liability Period and to the final account being ready for certification by the architect. Such certification is often delayed long beyond the making good of defects with the result that nominated sub-contractors have to wait for payment of the balance of their accounts though their work may have been completed in an early period of the contract.

'To meet this situation Clause 21(*d*) enables the architect to secure final payment to any nominated sub-contractor before final payment is due to the main contractor. The conditions under which such payment would be certified are that the nominated sub-contractor has satisfactorily indemnified the main contractor against any latent defects. The architect may then include such final payment in a certificate to the main contractor, and he must pay the nominated sub-contractor less only a cash discount of 2½ per cent. The limit of the retention fund is then reduced

in proportion to the amount so certified and the main contractor is relieved from all liability except for any latent defects.

'Though the procedure under this clause is a matter for the architect's discretion, there are, no doubt, many cases in which it would be proper to adopt the procedure, as it does not render the employer in any way liable to any nominated sub-contractor.'

## THE RIBA FORM OF CONTRACT: CLAUSE 22

**Nominated Suppliers.** The Practice Committee have considered the adjustment of nominated suppliers' accounts and the valuation of variations from the estimate given to the architect by the nominated supplier. So far as the contract between the Employer and the Contractor is concerned, such adjustment is dealt with under Clause 24(*e*) of the Contract and the amount paid or payable by the contractor to the nominated supplier is set against the prime cost or provisional sum provided for in the Bills of Quantities. If the contractor has added a profit to such sum in his original estimate, then the profit *pro rata* is to be added to or deducted from the Contract Sum having regard to the result of the adjustment of the prime cost or provisional sum.

Clause 9(*a*) of the Contract refers to the contractor's prices in the Bills of Quantities; the basis of the contractor's prices is contained in Clause 25A (1)(*a*) and (2)(*a*) of the Contract. These, however, should not be used in connection with the adjustment of a nominated supplier's account under Clause 24(*e*).

In cases where the Form of Tender for Nominated Suppliers is used the method of dealing with variations from the original tender is set out in Clauses 3, 4 and the Third Schedule, and no difficulty should arise. Where this Form of Tender is not used by the architect then the method of adjustment of variations should be stated by the architect when inviting estimates from proposed nominated suppliers, otherwise difficulties are bound to arise, particularly with joinery work where additional components are required over and above the quantity provided for in the estimate and the price would vary having regard to the number of additional components.

As there are no clauses in the RIBA Form of Contract other than Clause 24(*e*) for dealing with nominated suppliers' accounts, and as that only applies between the Employer and the Contractor, the attention of members is called to the position.

## PRE-CONTRACT PRACTICE FOR ARCHITECTS AND QUANTITY SURVEYORS

This is the title of a book written by five architects and five quantity surveyors with a foreword by Sir Basil Spence, the then President of the RIBA and by William James, FRICS, Chairman of the Quantity Surveyors' Committee of the RICS.

The book is comprehensive and covers in detail the stages in pre-contract preparation together with the duties of the architect and quantity surveyor in relation thereto.

The volume can be obtained from Crosby Lockwood and Son Ltd, 26 Old Brompton Road, London, SW7, price 12*s.* 6*d.*

## NATIONAL JOINT COUNCIL FOR THE BUILDING INDUSTRY

**Winding up of Grading Commission.** A long-standing feature of the building industry's wage structure came to an end today with the winding up of the Grading Commission of the National Joint Council, which for 40 years has been responsible for the system of grading the very large number of districts into which the country has been divided for wage rate purposes. The Council has previously announced its intention of raising all districts below Grade A to Grade A next October.

At the final meeting of the Commission today, the Chairman of the National Joint Council, Mr L. A. Walden, CBE, presented a silver salver to Mr G. W. C. Buchanan, CBE, who has been Chairman of the Grading Commission since 1939. The presentation was made in recognition of the outstanding contribution made by Mr Buchanan to the work of the National Joint Council, and in particular of the help which the Grading Commission had given during the war years in maintaining the stability of the industrial agreement. (19 July 1960.)

## NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS

**Shoddy Building Work.** Extracts from speech made by Mr D. E. Woodbine Parish, of London, President of the National Federation of Building Trades Employers, at the half-yearly general meeting of the Northern Counties Federation of Building Trades Employers on Wednesday 20 July.

'I do not think that the recent increase in Bank Rate should cause building firms to lose their confidence in the future. There is plenty of work in hand and the long term outlook suggests that the building programme will continue at a high level. There is, however, one aspect of our industry today which should, I consider, give all of us cause for concern. It is the noticeable increase over recent months in what I can only describe as shoddy building. We have all seen evidence of it in brickwork, plasterwork, painting and joinery. Most of it is perpetrated by firms and organisations which have no real roots in the building industry and consequently have little or no regard for its prestige and well-being. They are concerned only with 'getting by' with the lowest admissible standards of workmanship, with doing the job in minimum time and with making the maximum profit, regardless of the plight in which the client or building owner may subsequently be left.

'I want to say emphatically that member firms of the National Federation of Building Trades Employers are in no circumstances prepared to lower their standards of integrity, competence and performance to counter the kind of competition that firms of not altogether reputable character introduce. We stand by the maxim of a sound job for a fair price and we are not prepared to accept into membership any firm unless it can show conclusively that it observes this principle.

'It is open to every building owner, whether public authority or private householder, to choose his builder. In their own interests I trust that they will take note of my comments and thereby play their part, with the NFBTE, in eliminating the unhealthy rash of sub-standard work which is currently afflicting the industry.'

## MINISTRY OF WORKS

### Ministry's List of Contractors

**Revised Procedure.** Following an investigation by Mr Harmar Nicholls, JP, MP, Parliamentary Secretary, the Ministry of Works is to revise its procedure for listing possible contractors for its constructional work to ensure that every building and civil engineering contractor in the country has a fair chance of being considered. All firms of suitable standing are to be told how they may get on to the Ministry's Approved List from which firms are selected for invitation to tender. The Ministry is also going to make sure that information about firms already on the list is up to date.

The new scheme was explained to building trade press representatives by Mr Harmar Nicholls.

The present Approved List contains the names of some 17,500 firms, of which some 5,000 are general contractors and the remainder specialists. It has always been open to any firm which considers it has the capacity to undertake work for the Ministry to apply to be put on the list. Before a firm is entered on the list the Ministry visits its premises, examines the work it has done and takes up references.

To explain its present intentions the Ministry will be sending a note to all contractors in the industry in September. It will be enclosed with the annual return which the Department collects from every firm on details of employment. It will be made clear in the note that the Ministry is not anxious to encourage the very small firms (those not employing more than five men) to apply, as the number of jobs they could cover is very limited. Neither will the invitation be extended to specialist subcontractors at this stage.

Firms not yet on the list will be invited to write for an application form, which will have to be completed and supported *by a certificate signed by a qualified architect, surveyor or engineer* to the effect that the applicants are of good standing and capable of carrying out jobs of the size stated. Such applications which are judged satisfactory will be placed initially on a Provisional List and considered with firms on the Approved List when the Ministry draws up lists of firms to be invited to tender. Before being invited, the references of such a firm will be taken up and its premises and capabilities inspected. If it then comes up to Approved List standards it will be transferred to that list.

It should be pointed out that on 1 January 1960, the Ministry had in force only 871 new works contracts and 618 maintenance contracts, so that every firm on the list cannot expect frequent invitations.

To ensure that the present Approved List is entirely up to date the Ministry will invite those firms on it who have not been in recent touch with the Department to report any changes in their organisation and capabilities. The Ministry particularly wants to hear of firms which can now carry out larger jobs than when they were first entered on the list. (19 July 1960.)

# Notes and Notices

## NOTES

**New Building Materials and Preparations.** The attention of members is drawn to the fact that information in the records of the Building Research Station, Garston, Watford, Herts., is freely available to any member of the architectural profession, and architects would be well advised, when considering the use of new materials and preparations of which they have had no previous experience, to apply to the Director for any information he can impart regarding their properties and application.

**Members and Professional Affixes.** The Council's attention has been called more than once to the practice among some members of adding a string of letters of doubtful value to the affix indicating membership of the Royal Institute on their letter paper.

This is a matter in which the Council obviously cannot dictate to members, and must trust to their good sense. It should be obvious, however, that the affix of a chartered body of high standing is weakened in effect by the addition to it of a string of other mysterious designations, some of which probably indicate no more than the payment of an annual subscription.

**Members' Club Facilities.** A Members' Luncheon Room is open on the sixth floor, run on a largely self-service basis. The price of luncheon for members and students is 4*s.* and guests may be introduced. The luncheon service is available between 12 noon and 2 p.m. Luncheon vouchers issued through Luncheon Vouchers Limited will be accepted, as also will any vouchers issued privately by members in private practice to members or Students in their employment, if prior notice is given to the Catering Manager.

There is a Members' Club Room and Bar on the second floor. The room is open from 10 a.m. to 7 p.m.

Morning coffee can be served between 11 a.m. and 2.30 p.m., and afternoon tea between 3.30 p.m. and 7 p.m. The bar is open to members and Students from 12 noon to 2.30 p.m. and from 3.30 p.m. to 7 p.m. As an alternative to the luncheon room service, sandwiches may be obtained at the Members' Bar during the lunch hour.

The various facilities described are not available on Saturdays or Sundays.

# Competitions

**Note. An applicant for the conditions of a competition must state his registration number.**

**Redevelopment of Piccadilly Circus.** *The Star* newspaper invites students who have passed the Intermediate examination of the RIBA or the Town Planning Institute, *but are not registered architects or chartered town planners*, to submit designs for the comprehensive redevelopment of Piccadilly Circus.

Assessors: Mr E. Maxwell Fry, CBE [*F*].
Mr Edward D. Mills, CBE [*F*]
Mr Noel Moffett, AMTPI [*A*].

Premiums: £300, £200, £100.

Last day for submitting designs: 19 December 1960.

Students intending to enter the competition must inform *The Star* by Monday 3 October.

Conditions may be obtained on application to *The Star*, Piccadilly Circus Architectural Competition, 12–22 Bouverie Street, London, E.C.4.

**Harlow Development Corporation: Competition for Houses and Flats.** Last day for submitting designs: 6 March 1961. Full particulars were published in the JOURNAL for July, page 334.

**All-Gas House Competition.** Last day for submitting designs: 26 September 1960. Full particulars were published in the JOURNAL for July, page 334.

**Exhibition Stand: The National Federation of Clay Industries.** Last day for submitting designs: noon on Friday 21 October 1960. Full particulars were published in the JOURNAL for July, page 334.

**New County Offices at Newtown St Boswells.** Last day for submitting designs: 31 October 1960. Full particulars were published in the JOURNAL for May, page 245.

**The Westminster City Council** intend to promote an architectural competition for redevelopment for housing purposes of a site bounded by Vauxhall Bridge Road, Churton Street, Tachbrook Street and Rampayne Street, having a total area of about 13 acres.

Assessors: Mr Philip Powell, OBE, AADIPL [*F*]. Particulars will be published as soon as available.

### COMPETITION RESULT

**Metropolitan Cathedral of Christ the King, Liverpool**

1. (£5,000) Mr Frederick Gibberd, CBE [*F*].
2. (£3,000) Mr C. H. R. Bailey [*A*] (Kuala Lumpur).
3. (£2,000) Mr Arthur Bailey, OBE [*F*].

# Board of Architectural Education

**RIBA Maintenance Scholarships in Architecture.** The following RIBA Maintenance Scholarships have been awarded for the year 1960–61: An RIBA Houston Maintenance Scholarship of £125 per annum to Mr D. R. A. Gerrard of Bath, Somerset. An RIBA Houston Maintenance Scholarship of £125 per annum to Mr R. M. Watson of West Wycombe, Buckinghamshire. An RIBA Howe Green 4th and 5th Year Maintenance Scholarship of £40 per annum to Mr J. C. Evans of Northampton. *The Builder* Maintenance Scholarship of £75 per annum to Mr J. A. Taylor of Newcastle upon Tyne. The Ralph Knott Memorial Maintenance Scholarship of £45 per annum to Mr D. M. Castle of London. An RIBA 4th and 5th Year Maintenance Scholarship of £60 per annum to Mr J. A. McAdam of Cardiff. The Hartley Hogarth Maintenance Scholarship of £56 to Mr P. R. Kuttner of Keighley.

The Maintenance Scholarships previously awarded to the following candidates have been renewed: Mr H. M. Cummings (School of Architecture, University of Manchester – RIBA Houston Maintenance Scholarship of £125 per annum); Mr A. G. A. Spicer (Department of Architecture, Kingston-upon-Thames School of Art – RIBA Houston Maintenance Scholarship of £125 per annum); Mr Nicholas Wood (Cambridge University School of Architecture – RIBA Houston Maintenance Scholarship of £125 per annum).

**RIBA Final Examination. June 1960.** The Final Examination was held in London, Leeds, Manchester, Newcastle, Edinburgh and Belfast from 8 to 17 June 1960. Of the 267 candidates examined, 115 passed as follows:

| | |
|---|---|
| Passed whole examination | 82 |
| Passed whole examination, subject to approval of Thesis | 1 |
| Passed Part I only | 32 |
| | 115 |

152 candidates were relegated.

The successful candidates are as follows:

*Whole Examination*

Abraham: Paul
Agebeg: G. R.
Altmann: F. R. (Distinction in Thesis)
Anstead: E. T.
Bates: Donald
Beach: L. J.
Boram: D. H. R.
Brewer: Max
Browning: A. J. H. (Distinction in Thesis)
Campbell: I. G.
Claxton: K. G.
Connolly: P. R.
Courtenay: B. L.
Cowen: C. N.
Creedon: Robert
Croft: H. K.
Daniels: J. E. J.
Davies: G. W. J.
Deighton: G. K.
Donald: Kenneth
Ede: A. J.
Ellis: G. W.
Fearnley: J. V.
French: P. J.
Gardner: Richard
Garrett: J. B.
Gilbert: D. J.
Goad: D. I.

Gray: G. A.
Gray: P. D.
Green: D. S.
Griffith: Dennis
Hawkins: G. J.
Haywood: Ian
Heelis: Gordon
Higgins: C. G.
Hodges: T. K.
Honer: J. D.
Hunter: James
Isaac: A. R.
Jeavons: G. R.
Joiner: L. A.
Jones: Frank
Jones: G. A.
Jones: R. A.
Kerrigan: P. M.
King: D. E.
Kinloch: I. W.
Lewis: G. R. C.
McIlwaine: D. E.
McTaggart: R. M.
Marsh: M. J. (Distinction in Thesis)
Meyer: H. I.
Miller: R. A.
Millis: A. P.
Morris: G. M.
Morrison: L. D.
Mountain: Brian
Owen: Leslie
Perini: Luciano
Philip: D. S.
Porter: J. E.
Preston: D. I.
Price: J. F.
Prosser: D. I.
Rajendram: Rosiah
Rawson: F. K.
Renhard: J. T.
Richardson: J. M.
Roberts: K. M.
Senkowsky: H. E.
Simpson: R. G.
Sims: J. G.
*Smith: Harold
Smith: J. P.
Smith: Raymond
Stuckey: R. B.
Trajer: Janos
Way: J. L.
Wells: Alec
White: D. H.
Wood: R. K.
Woodford: B. M.

** Subject to approval of Thesis.*

*List of successful candidates who sat for Part 1 only.*

Andrews: B. H.
Bienias: (Mrs) Barbara
Butler: J. S.
Chohan: B. A.
Cornish: J. C.
Curran: M. G.
Davies: J. E.
Davies: R. C.
Farquharson: James
Gibbon: John
Goodwright: A. R.
Grand: Reuben
Janes: E. C.
Joyce: R. W.
Miller: Keith
Moody: J. A.
Myatt: Ian
Pearson: C. D.
Pomeroy: W. G. I.
Pope: F. M.
Price: K. J.
Pritchard: A. F. J.
Robbins: G. L.
Roberts: R. J.
Rosie: T. A.
Royle: J. M. A.
Ruggles: G. F.
Scholfield: A. W.
Shepherd: M. C.
Swallow: I. G. T.
Willars: D.T.
Wilson: D. W. A.

**RIBA Special Final Examination. June 1960.** The Special Final Examination was held in London, Leeds, Manchester, Newcastle, Edinburgh and Belfast from 8 to 17 June 1960. Of the 144 candidates examined, 39 passed as follows:

| | |
|---|---|
| Passed whole examination | 34 |
| Passed Part 1 only | 3 |
| Passed Part 2 only | 2 |
| | 39 |

105 candidates were relegated.

The successful candidates are as follows:

*Whole Examination*

Allen: F. D.
Ashfold: B. A.
Bannister: W. G.
Bell: J. R.
Benjamin: W. H.
Blackwood: B. G. W.
Brown: Geoffrey
Cooper: Denis
Davies: T. A. R.
Davis: E. R.
Dryburgh: K. A.
Edmonds: N. A.
Fuller: R. C.
Grubb: G. E.
Harding: C. M.
Harrison: Godfrey
Hill: D. S.
Joel: S. V.
Jones: G. H.
Knowles: W. C.
Liebesman: (Mrs) Maria
Lutomski: Miroslaw
Mew: V. J.
Murray: C. R.
Ridgett: J. W.
Seddon: Fred
Smith: R. C.
Stancel: Jan
Taylor: E. N.
Taylor: S. D.
Walden: Derek
Wild: L. A.
Wixey: L. W.
Zehetmayr: (Miss) J. F.

*List of successful candidates who sat for Part 1 only.*

Marshall: D. G.
Moore: T. J.
Nekanda-Trepka: Janusz

*List of successful candidates who sat for Part 2 only.*

Jones: R. W.
Rule: J. W. G.

# Allied Societies

**Hong Kong Society of Architects.** 130 members and guests met at an informal party at the Golden Phoenix, Kowloon, on 15 July to celebrate the alliance of the Society with the RIBA. Sir Basil Spence, in a message to the Society, wrote, 'We have great admiration for the imperturbable spirit in which you exist in close proximity to such a vast and incalculable force as China, and admire the way in which you have become self-sufficient in the sense that you are now able to educate and train your own young architects and no longer depend on recruits from this country to staff your offices. The pressing programme of work, made no easier by a never ending trickle of refugees from outside must be a great responsibility.'

The President of the Society, Mr Szeto Wai proposed a toast to the RIBA and Mr J. M. Fraser, CBE, ED [*F*] replied. The party was arranged by Mr D. W. McDonald [*A*] and the master of ceremonies was Mr G. C. Dovey [*A*].

**Federation of Malaya Society of Architects. Annual Dinner.** The Society held its eleventh annual dinner on 18 June at the Federal Hotel, Kuala Lumpur. The President, Mr T. A. L. Concannon [*F*], was in the chair and the dinner was attended by some 140 guests. The guests of honour were His Highness the Regent of Selangor and the Raja Puan Muda, and other distinguished guests included the Vice-Chancellor of the University of Malaya, Professor A. Oppenheim, the Hon. Minister of Works, Posts and Telecommunications, Dato V. T. Sambanthan and representatives of the sister professional bodies in the Federation.

The toast of His Majesty the Yang di-Pertuan Agong was proposed by Mr Concannon, and that of His Highness the Regent of Selangor by Mr Kington Loo [*A*]. The Minister of Works proposed the toast of the RIBA and the Federation of Malaya Society of Architects, to which Mr Concannon replied. The toast of the Guests was proposed by Mr A. Geeraerts [*A*], to which Professor Oppenheim replied.

**Change of Officers and Addresses**

*Saskatchewan Association of Architects.* President, G. H. Kerr [*A*]. Hon. Secretary-Treasurer, G. R. Forrester, 212 CPR Building, Saskatoon, Saskatchewan, Canada.

# General Notes

**Society of Architectural Historians of Great Britain.** The Executive Committee of the Society has appointed Mr John Archer [*A*] acting Honorary Secretary for the period of Mr Frank I. Jenkins's [*A*] absence abroad. Until February 1961, correspondence concerning the Society should be addressed to Mr Archer at the School of Architecture, University of Manchester, Manchester 13.

**Retirement of LMBA Director.** Mr G. H. A. Hughes, OBE, FRICS, FIARB., for 16 years Director of the London Master Builders Association, retired on the 31 August.

Many tributes to his outstanding service have already been paid, not only by builders but by everyone connected with the industry with whom Mr Hughes has come into contact. The LMBA are proposing to honour Mr Hughes by inviting him to be their guest at a cocktail party in the Carpenters Hall on 10 November.

**The University of NSW, Australia.** The following change of name of one of the Schools of Architecture recognised for exemption from the RIBA examinations, is to be noted.

The New South Wales University of Technology, School of Architecture is now The University of New South Wales, School of Architecture (Professor F. E. Towndrow [*F*], Dean of the Faculty of Architecture).

This change of name follows the development within the University of the Faculties of Arts, of Commerce and of Medicine.

**The Pan American Federation of Associations of Architects.** The Federation is holding a Congress of Architects in Buenos Aires from 8 to 16 October 1960. The Congress is primarily for architects from the American continent, but non-American architects may attend as observers.

Any members who are interested should contact Mr Jaime L. Marques, Secretary General FPAA, Bartolome Mitre 1318, Montevideo (Uruguay).

**RIBA Cricket Club**

*RIBA v. Blue Circle.* 25 May. This match was played at Bromley and was won. The RIBA batted first and declared at the respectable total of 186 for 8, C. Smith scoring a century (he had a good day as four Blue Circle wickets fell to him later). He was backed up by A. Morris and K. Roberts who each made 33. Blue Circle were all out for 107 (Morris 4 for 15).

*RIBA v. AA.* 15 June. Played at Elstree, this was another win for the RIBA. The RIBA went in first and declared at 151 for 8, the top scorers being W. Beeston (29) and P. Michel (34). The AA opened disastrously, losing their first two wickets for 4, and the innings closed at 55. Bowling: D. Stevens 3 for 16, W. Spooner 5 for 35.

*RIBA v. LMBA.* 19 July. This match was played at Earlsfield. The LMBA openers made an impressive start (F. Vidler 75 n.o. and S. Wright 51 n.o.), but with the score standing at 135 for 0 wickets, the rain came down and play had to be abandoned.

**The Architects' Window: Guildford Cathedral.** On Thursday 23 June, while London sweltered in torrid heat under a cement-coloured sky the sun shone brilliantly at Guildford for an occasion of special interest to architects. Members of the South Eastern Society met in the Cathedral to hand over to Sir Edward Maufe the Architects' Window for which £1,200 had been raised by voluntary subscriptions. The formal presentation was made by the President, Mr R. A. Cooksey, TP, [*F*]. Among the many present were Lord Hamilton, Chairman of the New Cathedral Council, Mr Laurence Powell, Chairman of the Executive Committee and Miss Iredale its indefatigable Secretary.

Although the structure of the window has for some time been complete it was lacking the element upon which this ceremony was hung, a panel of stained glass designed and executed by Mr William Wilson, RSA, well known for his work elsewhere in the Cathedral. The design, with its symbolism of Architecture and Building contrives very skilfully a marriage of traditional form and contemporary feeling and is very pleasing in its robust handling of line and colour.

The Cathedral Window Appeal Fund was launched in 1957 by the then President of the Society, Mr R. A. Duncan Scott [*F*]. Its success was largely due to the unflagging energy, determination and enthusiasm of Mr Graeme Highet [*F*], Chairman of the responsible sub-committee.

More than half the fund was raised by Members of the SESA and their Ladies with some help from the neighbouring Hampshire and Isle of Wight Society. The balance was contributed from the funds of the Society and its seven Chapters. Guildford distinguished itself with the magnificent total of £336.

**SESA Exhibition, 1961.** The Brighton Chapter of the South-Eastern Society of Architects will be holding an Annual Exhibition of architects' work at the Brighton Art Gallery in the spring of 1961.

Any architect carrying out work in the Chapter area is invited to write to the Secretary, Brighton Chapter, SESA, The Old House, London Road, Horsham, Sussex, for further details.

**ARCUK.** On 10 August, at Gravesend Petty Sessional Court, David George King of 1A Devonshire Road, Gravesend, pleaded guilty to a charge that he, whilst not being a person registered under the Architects (Registration) Act 1931, carried on business under a style containing the word 'architect'. The printed heading of a letter produced in evidence included the following words:

Modern Homes
(Gravesend)
Chartered Architect
Manager: D. G. King

The defendant was fined £25 and ordered to pay 10*s*. costs.

(We have been asked to make it clear that Mr Donald George King, of Romford, who is duly registered as an architect and is an Associate of the Royal Institute of British Architects has no connection whatsoever with the above case.)

**The SPAB Annual Course on The Repair of Ancient Buildings.** The Society for the Protection of Ancient Buildings is again providing facilities for architects and surveyors interested in and responsible for old buildings to obtain knowledge of its principles and methods of repair, and is arranging its annual course, consisting of lectures, discussions and visits, to cover the many important aspects of repair work. Although the course is primarily for architects, surveyors, clerks of works and builders, anyone particularly interested in the maintenance of old buildings will be welcome.

The course will be held from *Monday to Saturday* 10–15 *October*, and the SPAB invites those who are interested to apply for further details to the Secretary of the Society, 55 Great Ormond Street, London, WC1.

# Obituaries

**Arthur Lumb,** MBE [*A*]
died on 14 July 1960, aged 45.

Mr A. R. C. Johnston [*F*], Vice-Chairman of the Cumberland Branch of the Northern Architectural Association, writes:

'The sudden death of Arthur Lumb, immediately following his appointment as Cumberland County Architect, will be felt by architects in Cumberland for many years. He leaves a wife, a young son and daughter.

'He was born at Sowerby Bridge near Halifax, educated at Sowerby Bridge Grammar School and qualified at the Leeds School of Architecture in 1936. Upon qualifying he worked in a private architect's office in Leeds. In 1937, at the age of 22, he was appointed Junior Assistant Architect to the Cumberland County Architect.

'During the Second World War he volunteered for service with the Royal Engineers, serving in France, Belgium and Germany; attaining the rank of Captain. Whilst in the Army he was appointed a Member of the Order of the British Empire (Military Division).

'After the war Arthur Lumb returned to Cumberland and held various appointments, including Deputy County Architect, under the late County Architect, John Haughan.

'The principal concern of John Haughan and Arthur Lumb since the Education Act of 1944 has been the development of educational buildings, including several pioneer schemes. In recent years they were working on the problem of village school rehabilitation.

'Since 1959 Arthur Lumb, who devoted his life to his profession, has been a most popular Chairman of the Cumberland Branch of the Northern Architectural Association, being particularly respected for his understanding and work in dealing with the problems of private and official architects.'

**William Adam Singleton,** PH.D, MA, B ARCH, AMTPI, DIP.TP, FSA [*F*]
died on 29 February 1960.

Professor R. A. Cordingley [*F*] writes:

'It is with great regret that we report the death of Dr Singleton, on 29 February 1960, at the early age of 44. He graduated at the Liverpool University School of Architecture, and subsequently took the MA degree there. After service with the Forces he spent some time in the offices of Mr Herbert J. Rouse of Liverpool, joining the staff of the Manchester University School of Architecture in 1943, where he became Senior Lecturer after a few years. Meanwhile he secured the Diploma in Town and Country Planning in 1946 and the PH.D in 1949, after a protracted field research in historical minor domestic architecture. In 1953 he was elected a Fellow of the Society of Antiquaries and of the RIBA in 1954. His distinction was further evidenced by his winning several prizes and he was the Alfred Bossom Research Fellow in 1957, pursuing valuable investigations in building management. It was, however, in connection with his activities at York that he became most widely known. His contacts with that city began in a small way in 1951, when he undertook the organisation of the architectural courses sponsored by the York Civic Trust. These led to the foundation in 1953 of the York Institute of Architectural Study, providing residential courses for architects and other professional people; and under his care expanded to such importance that in 1959 he relinquished his Manchester University appointment in order to give his full time to the work. Thus he became Director of the York Institute of Advanced Architectural Studies, the name by which it is now known. He also held the appointment (1959–60) of Hoffman Wood Professor of Architecture in Leeds University.'

# Membership Lists

## ELECTION: 4 OCTOBER 1960

An election of candidates for membership will take place on 4 October 1960. The names and addresses of the candidates found by the Council to be eligible and qualified in accordance with the Charter and Bye-laws, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, RIBA, not later than Monday 19 September 1960.

The names following the applicant's address are those of his proposers.

AS FELLOWS (11)

**Banks: Gerald,** Dipl.Arch.(L'pool), 5 London Road, Bicester, Oxon. Reginald Cave, Orrell H. Nuttall, Thomas Rayson.

**Boxall: Reginald Arthur,** 81 Moulsham Street, Chelmsford, Essex; 161 London Road, Chelmsford. Harold Conolly, Roff Marsh, Anthony Dannatt.

**Dexter: Kenneth Perry,** Messrs Reynolds, Tomlins and Dexter, Granville Chambers, Bournemouth; Lychett St Mary, Lytchett Matravers, Dorset. A. E. Geens, Max G. Cross, Ronald A. Phillips.

**Dickinson: Cyril Pollard,** AADipl., 6 Wolsey Road, Moor Park Northwood, Middlesex; 37 Norfolk Street, WC2. H Austen Hall, Sir Basil Spence, H. G. C. Spencely.

**Ferguson: Peter Scott,** BSc.(Eng.), (St Andrews), DA, Dip.TP(Edin.), AMTPI, 10 Moray Place, Edinburgh; Messrs Basil Spence and Partners, 40 Moray Place, Edinburgh. Sir Basil Spence, Prof. Robert H. Matthew, Peter Dunham.

**Glover: John Hardie,** DA(Edin.), Messrs Basil Spence and Partners, 40 Moray Place, Edinburgh; The Coach House, Bedford Place, Edinburgh. Sir Basil Spence, Prof. Robert H. Matthew, Peter Dunham.

**Lawrence: Sidney George,** Flat 2, 147 Clapham High Street, SW4; Westminster Bank, Post Office Court, 10 Lombard Street, EC3. G. Whittaker, Thomas Spencer, Howard V. Lobb.

**Renton: Andrew,** DA(Edin.), 48 Queen Anne Street, W1; One Hampstead Way, NW11. Sir Basil Spence, James Shearer, Prof. Robert H. Matthew.

**Wharfe: Harold,** MA, AMTPI, Durham University School of Architecture, King's College, Newcastle upon Tyne 1; 27 Ridley Place, Newcastle upon Tyne 1; 25 Elmfield Road, Gosforth, Newcastle upon Tyne 3. Prof. W. B. Edwards, Bruce Allsopp, Prof. J. H. Napper.

**Wilson: Leslie Hugh,** OBE, AMTPI, Bellfield, Dullatur, by Glasgow; Cumbernauld Development Corporation, Cumbernauld House, Cumbernauld, by Glasgow. Prof. Sir William Holford, E. Maxwell Fry, Edward D. Mills.

and the following Licentiate who has passed the qualifying examination:

**Wingate: John Basden,** 25 Wellington Street, Glasgow, C2; 7 Collylin Road, Bearsden. J. Bell, A. G. Jury, G. F. Shanks.

AS ASSOCIATES (76)

**Aspinall: Frederick Anthony,** Whitehall, Grange Road, Pleshey, Nr. Chelmsford, Essex. Clifford S. Jaques, Arthur Korn, Leo de Syllas.

**Bicknell: William Leon,** Dipl.Arch. (Northern Polytechnic), 15 Imperial Road, Wood Green, N22. C. G. Bath, Sidney F. Burley, Greville Rhodes.

**Bridges: The Hon. Robert Oliver,** BA (Oxon.), Goodman's Furse, Headley, Epsom, Surrey. M. Pattrick, Anthony Cox, Arthur Korn.

**Broadbent: David Stanley,** Dip.Arch. (Sheffield), 14 Carter Knowle Road, Sheffield, 7. Prof. John Needham, James Melvin, H. B. Leighton.

**Broom: Arthur,** 19 Chiswell Road, Birmingham 18. J. Seymour Harris, Cecil E. M. Fillmore, Geoffrey Cox.

**Brown: Peter,** AADipl., 'Ingleside', Oxford Road, Gomersal, Yorkshire. Arthur Korn, Leslie G. Creed, A. W. Glover.

**Bruce: George Lindsay,** DA(Edin.), 15 Inverleith Gardens, Edinburgh. J. Roy McKee, Ian G. Lindsay, Alan Reiach.

**Bull: James Edwin,** Dipl.Arch.(Oxford), The Fortescue Arms, E. Allington, Nr Totnes, S. Devon. E. D. Jefferiss Mathews, A. G. Nisbet, Reginald Cave.

**Calhaem: Colin Maclean,** DA(Edin.), Twin Acres, Buxted, Sussex. Esme Gordon, W. G. Dey, J. Holt.

**Carr: Stanley,** Dipl.Arch.(Northern Polytechnic), 21 Ashfield Park Drive, Standish, Nr Wigan, Lancs. C. G. Bath, J. E. Moore, Sidney F. Burley.

**Chew: Ernest Alexander George,** Dipl.Arch. (Northern Polytechnic), 4 Church Cottages, Limpsfield, Surrey. C. G. Bath, Thos. E. Scott, Sidney F. Burley.

**Clark: Philip Lindsey,** 14 Caroline Terrace, Sloane Square, SW1. M. Pattrick, Arthur Korn, Eric Lyons.

**Connell: Raymond Buckley,** BArch., Dip.TP(Dunelm), 15 Parkside, Gosforth Park, Newcastle upon Tyne 12. Prof. W. B. Edwards, Prof. J. H. Napper, Prof. J. S. Allen.

**Cunning: James Laurence,** Goodham, Symington, Ayrshire. Prof. F. Fielden, A. G. Jury, Alan Reiach.

**Dalton: John Anthony,** AADipl., School of Architecture, University of Cambridge, 1 Scroope Terrace, Cambridge. Arthur Korn, Prof. Sir Leslie Martin, Michael Pattrick.

**Dennis: Samuel Barkley,** DA(Edin.), Ballykennedy, Gracehill, Co. Antrim, N. Ireland. E. R. Taylor, J. H. Swann, James R. Young.

**Dilley: Kenneth John,** Dip.Arch.(The Polytechnic), 114 Tachbrook Street, SW1. Clifford W. Shrimplin, John S. Walkden, Peter Goodridge.

**Dollimore: Colin Charles,** Dip.Arch.(The Polytechnic), 21 South Close, Highgate, N6. Peter Goodridge, J. S. Foster, John S. Walkden.

**Douglas: Alan George,** 44 Bassnage Road, Hasbury, Halesowen, Nr Birmingham. Prof. William J. Smith, A. G. Jury, Thos. Barclay.

**Dredge: Derek Stanley,** Dipl.Arch.(Northern Polytechnic), 6 Great Slades, Potters Bar, Middlesex. C. G. Bath, Sir Basil Spence, H. K. Wakeford.

**Dronfield: Francis Seymour,** Dipl.Arch. (Oxford), 'Stanage', Wheelers End, Nr High Wycombe, Bucks. Norman Royce, F. T. Pritchard, Reginald Cave.

**Eccles: David Allan,** AADipl., Flat 3, 53 Crystal Palace Park, SE26. Arthur Korn, Donald H. McMorran, G. Whitby.

**Edwards: Alan Hugh,** BArch.(L'pool.), 45 Wigan Road, Westhead, Nr Ormskirk, Lancs. Prof. R. Gardner-Medwin, R. R. Young, Alfred G. Bullen.

**Evans: Roger Frederick,** Dip.Arch.(Birm.), 15 Milton Road, Fallings Park, Wolverhampton. A. Douglas Jones, J. F. R. Gooding, R. Edmonds.

**Everton: Timothy William,** 7 St John's Road, Ivybridge, Devon. G. A. Jellicoe and the President and Hon. Secretary of the Devon and Cornwall Society of Architects under Bye-law 3(*a*).

**Finch: William Quentin,** 43 The Drive, Shoreham-by-Sea, Sussex. Applying for nomination by the Council under Bye-law 3(*d*).

**Firth: Graham Clifford,** 66 Boston Avenue, Southend on Sea. J. M. Scott, P. F. Burridge, L. J. Selby.

**Garnett: Dennis John Richard,** 6 Hartland Road, Barrow-in-Furness, Lancashire. Cecil Stewart, F. Leslie Halliday, Francis Jones.

**Halter: Roman,** AADipl., 2 Albert Mansions, Crouch Hill, N8. Leo de Syllas, Anthony Cox, Arthur Korn.

**Harrison: Roger Lionel Ernest,** Dipl.Arch. (Oxford), 54 Jamescroft, Willenhall Wood, Coventry, Warwickshire. Reginald Cave, Arthur Ling, F. T. Pritchard.

**Higgs: Daniel George,** Dipl.Arch.(Oxford), 1 Greyfriars Road, Reading, Berks. A. G. Armstrong, F. T. Pritchard, Reginald Cave.

**Hinge: (Mrs) Diana,** Dipl.Arch.(Northern Polytechnic), 124 Ember Lane, Esher, Surrey. C. G. Bath, Sidney F. Burley, J. E. Moore.

**Holden: Ian David Andrews,** Dipl.Arch. (UCL), 66 Alexandra Avenue, Luton, Bedfordshire. Alner W. Hall, Fredk. G. M. Butlin, W. A. Cole-Adams.

**Holt: John Norman,** Dip.Arch.(Manchester), 183 Brandlesholme Road, Bury, Lancs. Prof. R. A. Cordingley, Eric S. Benson, Edgar Sutcliffe.

**Hugh-Jones: Victor,** AADipl., 11 Broadlands Road, Highgate, N6. Frank T. Winter, Arthur Korn, Edgar R. Taylor.

**Hummerston: John George,** Dipl.Arch. (Northern Polytechnic), 6 Thorndene Avenue, N11. C. G. Bath, Thos. E. Scott, Frank Risdon.

**James: Alan Digby George,** Dip.Arch. (Wales), 'Egerton', 31 Huron Crescent, Lakeside, Roath Park, Cardiff. Dr T. Alwyn Lloyd, Sir Percy Thomas, Lewis John.

**James: (Miss) Diane Mansel,** Dip.Arch. (Wales), 'Rosemont', 46 Parc Howard Avenue, Llanelly, Carms. Lewis John, Dr T. Alwyn Lloyd, C. F. Jones.

**Kaufmann: Gerd Hugo,** AADipl., 12 Purcells Avenue, Edgware, Middx. Arthur Korn, Anthony Cox, M. Alexander.

**Kennedy: Henry Charles,** Dip.Arch.(Manchester), 31 Manchester Road, Altrincham, Cheshire. Prof. R. A. Cordingley, H. T. Seward, Leonard C. Howitt.

**Kidd: Roger Neville Dalway,** BA(Arch.) (Manchester), 32 Clickett Road, Basildon, Essex. Prof. R. A. Cordingley, Eric S. Benson and applying for nomination by the Council under Bye-law 3(*d*).

**Lau: (Miss) Yuk-Kuen,** Dipl.Arch.(Northern Polytechnic), Flat 1, Sheldon Lodge, 159 West End Lane, NW6. C. G. Bath, J. E. Moore, Sidney F. Burley.

**Lee: Gee Koon,** Dip.Arch.(Sheffield), c/o 70 Broadwalk Court, Palace Gardens Terrace, W8. Prof. John Needham, Frank Risdon, Miss Judith G. Ledeboer.

**Levin: Gerald,** B.Arch.(CT), 30 South Hill Park, NW3. Prof. L. W. Thornton White and applying for nomination by the Council under Bye-law 3(*d*).

**MacGregor: Ian Philip,** Dip.Arch.(Hammersmith), 63 Huntingfield Road, Roehampton, SW15. Paul Nightingale, Thomas A. Eaton, Frankland Dark.

**McKee: Samuel Ian Dickson,** DA(Edin.), 33 Stormont Park, Belfast, Northern Ireland. Applying for nomination by the Council under Bye-law 3(*d*).

**Maddison: William,** DA(Glas.), 11 Wellesley Avenue, Belfast, N. Ireland. Applying for nomination by the Council under Bye-law 3(*d*).

**Manton: Ramon Sydney,** Dip.Arch.(Hammersmith), 41A South Parade, Mollison Way, Edgware, Middlesex. Paul Nightingale, Emil C. Scherrer, J. Kenneth Hicks.

**Masson: David Oliver,** Dip.Arch.(Abdn.), 24 Stocket Parade, Aberdeen. E. F. Davies, A. B. Gardner, John Maclennan.

**Mawson: Philip Overend,** 9 Swan Street, Carleton, Nr Skipton, Yorkshire. Mrs Mary D. Wales, W. Clifford Brown, R. H. Winder.

**Miller: Raymond Kenneth,** 31 Barrington Road, Southgate, Crawley, Sussex. Frederick Gibberd, Denis Clarke Hall, Frank Risdon.

**Mills: Peter John,** Dipl.Arch.(Northern Polytechnic), 7 Alwyne Place, N1. M. H. Cooke-Yarborough, J. M. Grice, Anthony Cox.

**Morris: John Anthony,** Dip.Arch.(The Polytechnic), Wood's Cottage, Manor Lane, Gotherington, Cheltenham, Glos. Harry C. Inglis, Jas. M. Wilson, John S. Walkden.

**Nairn: Douglas,** DA(Dundee), c/o Messrs P. and B. Gregory, 5 Crescent Road, Belfast 7, N. Ireland. T. H. Thoms, A. F. S. Wright, W. S. Gauldie.

**Percey: Edmund Charles,** 19 Fordwater Road, Chertsey, Surrey. E. C. Scherrer, J. Kenneth Hicks, H. Bennett.

**Pimm: Keith Anthony Lindon,** AADipl., c/o Cumbernauld Development Corporation, Cumbernauld, by Glasgow. Arthur Korn, Leo de Syllas, J. M. Grice.

**Richards: Derek Hawes,** 95 Court Road, Mottingham, SE9. Edward D. Mills, Dr R. Herz, Paul Nightingale.

**Rigby: Alfred,** BA(Arch.), MA(Manchester), 37 St. Leonard's Road, Chesham Bois, Bucks. Prof. R. A. Cordingley, F. A. C. Maunder and applying for nomination by the Council under Bye-law 3(*d*).

**Rigby: (Mrs) Ann Patricia,** Dip.Arch. (Manchester), 37 St. Leonard's Road, Chesham Bois, Amersham, Bucks. Prof. R. A. Cordingley, F. A. C. Maunder and applying for nomination by the Council under Bye-law 3(*d*).

**Roberts: Alan Frederick,** 41 Colehill Lane, SW6. C. H. Elsom, Frederick Gibberd, R. J. Double.

**Russ: Michael John,** 7 Belsize Avenue, NW3. Frankland Dark, Thomas A. Eaton, H. Campbell Ashenden.

**Semple: Hubert William,** Dipl.Arch. (Northern Polytechnic), Flat 7, 121 Long Acre, WC2. C. G. Bath, J. E. Moore, Sidney F. Burley.

**Sheldon: Barrie,** Dip.Arch.(Birm.), 16 Reservoir Road, Otton, Solihull, Warwickshire. A. Douglas Jones, Reginald Edmonds, J. F. R. Gooding.

**Smith-Pearse: Robin Lawrence Wood,** AADipl., 68 The Hall, Foxes Dale, Blackheath, SE3. Arthur Korn, Henry G. Goddard, Anthony Cox.

**Spencer: George Gerrard Lewis,** Dipl.Arch. (Oxford), 46 Pauling Road, Wood Farm, Oxford. M. W. Jones, F. T. Pritchard, Reginald Cave.

**Stevens: Douglas Peter,** Dip.Arch.(Dunelm), Vale House, Killincarrig, Delgany, Co. Wicklow. Prof. W. B. Edwards, Prof. J. H. Napper, Bruce Allsopp.

**Stocker: Malcolm James,** Dipl.Arch. (Northern Polytechnic), 37 Vancouver Road, Forest Hill, SE23. C. G. Bath, Edward Playne, Clifford Culpin.

**Strachan: Ian,** Dip.Arch.(Abdn.), 14 Landale Road, Peterhead, Aberdeenshire. Douglas W. Innes, D. J. A. Ross, E. F. Davies.

**Thomas: Clifford Brian,** Dip.Arch.(Wales), 'Sunnymeade', 29 Llandebie Road, Ammanford, Carms. Lewis John, Dr T. Alwyn Lloyd, C. F. Jones.

**Walczak: Leonard Jan,** 144 Hurst Road, Sidcup, Kent. A. M. Gear, Sidney Kaye, E. H. Firmin.

**Watts: John Richard,** 267 Carter Drive, Romford, Essex. Frank Risdon, B. A. P. Winton Lewis, Raymond C. Arnold.

**Wedderburn-Clarke: Christopher John,** B.Arch.(CT), c/o Solway, Curley Hill, Ilkley, Yorks. Prof. L. W. Thornton White and applying for nomination by the Council under Bye-law 3(*d*).

**Whittam: Jeffrey,** BA(Sheffield), 134 Glebe Street, Castleford, Yorkshire. Prof. John Needham, Prof. Stephen Welsh, H. B. Leighton.

**Winkley: Austin Snape,** AADipl., 51 St Charles Road, Rishton, Blackburn, Lancashire. Arthur Korn, Michael Pattrick, A. E. Miller.

**Wixey: Leslie William,** Bleak House, Station Road, Gloucester. Cyril V. Dancey, G. W. H. Ryland, Harold F. Trew.

**Woodcock: Peter William,** MCD B.Arch. (L'pool.), Nabbs Cottage, Greenmount, Bury, Lancs. Prof. R. Gardner-Medwin, Prof. H. Myles Wright, W. C. Young.

## ELECTION: 13 DECEMBER 1960

An election of candidates for membership will take place on 13 December 1960. The names and addresses of the overseas candidates found by the Council to be eligible and qualified in accordance with the Charter and Bye-laws, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, RIBA, not later than Friday 2 December 1960.

The names following the applicant's dress are those of his proposers.

AS FELLOWS (4)

**Chowdhury: (Mrs) Urmila Eulie,** B.Arch. (Sydney), Office of the Chief Architect and Town Planner, Capital Project, Sector 19, Chandigarh, E. Punjab, India. J. K. Chowdhury, Miss Jane B. Drew, E. Maxwell Fry.

**Flatt: Derrick Neeve,** MBE, PO Box 168, Kitale, Kenya. G. B. E. Norburn, L. G. Jackson, Howard D. Archer.

**Freeman: Roger,** AADipl. Messrs Cobb, Powell and Freeman, PO Box 988, Kampala, Uganda, East Africa; Mbuya Hill, Kampala. The late John L. Hope, Howard D. Archer, R. Q. Scammell.

**Seow: Eu Jin,** B.Arch.(Melbourne), E. J. Seow Associates, 1 Damansara Road, Kuala Lumpur, Malaya. Ng Keng Siang, T. A. L. Concannon, Eric Taylor.

AS ASSOCIATES (21)

**Adams: Gordon Stuart,** B.Arch.(Univ. of NSW), ASTC(Arch.), Dip.TCP (Sydney), 95 Greville Street, Chatswood, NSW, Australia. Prof. F. E. Towndrow, Prof. Denis Winston, Prof. H. Ingham Ashworth.

**Baranauskas: Leonas,** 36 Walpole Street, Kew, Melbourne, Australia. Harry Winbush and applying for nomination by the Council under Bye-law 3(*d*).

**Benington: Derek Charles,** B.Arch.(Rand), PO Box 739, Johannesburg, South Africa. Applying for nomination by the Council under Bye-law 3(*d*).

**Boyce: Bernard Walter,** c/o PWD Dar es Salaam, Tanganyika. C. J. Crowe, L. G. Jackson, A. E. J. Hastings.

**Danjoux: Guy Edmond Mathieu,** Government Architects' Office, Phoenix, Mauritius. C. G. Bath, J. E. Moore, Sidney F. Burley.

**Hersch: Cecil,** B.Arch.(Rand), 41 Sasbank Building, 66 Market Street, Johannesburg, Transvaal, South Africa. Applying for nomination by the Council under Bye-law 3(*d*).

**Hestelow: Peter Norman,** 75 Westbrook Avenue, Wahroonga, NSW, Australia. S. G. Thorp, J. L. Stephen Mansfield, Joseph C. Fowell.

**Jones: (Mrs) Valerie Heather,** Dip.Arch. (Wales), Messrs James Cubitt and Partners, PO Box 366, Enugu, Eastern Nigeria. Lewis John, James Cubitt, Chessor Matthew.

**Knott: Robert George,** 103 Orrong Crescent, North Caulfield, Melbourne, SE7, Victoria, Australia. R. S. Demaine, P. H. Meldrum, Prof. Brian B. Lewis.

**Lee: King Fun,** B.Arch.(Melbourne), International House, 241 Royal Parade, Parkville, N2, Victoria, Australia. Prof. Brian B. Lewis, Mrs Hilary Lewis, R. G. Parker.

**Lim: Sin-Huat,** B.Arch.(Melbourne), 116 Hotham Street, East Melbourne, Victoria, Australia. Prof. Brian B. Lewis, Mrs Hilary Lewis, R. G. Parker.

**Loh: Hock Im,** Dipl.Arch.(Northern Polytechnic), 44 Burmah Road, Penang, Federation of Malaya. T. E. Scott, C. G. Bath, J. E. Moore.

**Ossher: David Nathan,** B.Arch.(Rand), 157 Annan House, 86 Commissioner Street, Johannesburg, South Africa. Applying for nomination by the Council under Bye-law 3(*d*).

**Philippou: Andreas,** Dip.Arch.(Hammersmith), 6 Grammos Street, Nicosia, Cyprus. Paul Nightingale, Dr R. Herz, Edwin Rice.

**Sampson: Bernard Rushton,** PO Box 8081, Causeway, S. Rhodesia. J. Athol Richardson, Lionel F. R. Coote, Clifford Duke.

**Sargent: George Roger,** Dip.Arch.(Auck., NZ), PO Box 9181, Newmarket, Auckland, SE1, New Zealand. Prof. A. C. Light and the President and Hon. Secretary of the NZIA under Bye-law 3(*a*).

**Seah: Peng Chua,** B.Arch.(Melbourne), 9 Lorong M., Telok Jurau, Singapore. Prof. Brian B. Lewis, R. G. Parker, Mrs Hilary Lewis.

**Toh: Keng Chuan,** B.Arch.(Melbourne), 82-C Robinson Road, Singapore. Prof. Brian B. Lewis, R. G. Parker, Mrs Hilary Lewis.

**Tope: Prabhakar Krishna,** Lecturer in Architecture, Govt. Polytechnic, Nagpur, India. S. H. Parelkar, Homi N. Dallas, Prof. S. S. Reuben.

**Young: Set Ngai,** c/o Lup Cheong Hong, 408 Bank of East Asia Building, Hong Kong. Eric Cumine, W. W. C. Shewan, Richard E. Lee.

**Zouves: George,** B.Arch.(Rand), PO Box 530, Kimberley, Cape Province, South Africa. Applying for nomination by the Council under Bye-law 3(*d*).

# Members' Column

*This column is reserved for notices of changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than of posts wanted as salaried assistants for which the Institute's Employment Register is maintained.*

## APPOINTMENTS

**Mr Bernard C. Adams** [*A*] has been appointed County Architect to the Somerset County Council. His address is 'Meadowside', Wild Oak Lane, Trull, Taunton (Taunton 2485).

**Mr William Dickson** [*A*] has been appointed Director of Planning for the city of Portland, Maine, USA.

**Mr Frank I. Jenkins** [*A*] has accepted an appointment as visiting Associate Professor in the University of California for the fall semester. Until 25 January 1961, his address will be c/o School of Architecture, College of Environmental Design, University of California, Berkeley 4, California, USA.

**Mr J. Newlove** [*A*] has been appointed Lecturer in Building at the Barnsley College of Technology, where he will be pleased to receive trade literature.

**Mr Brian Shawcroft** [*A*] has been appointed assistant Professor of Architecture at The School of Design, North Carolina State College, Raleigh, North Carolina, USA.

**Mr Lindsay B. West** [*A*] has taken up an appointment with Messrs Steward and Patterson Ltd, Pockthorpe Brewery, Norwich, where he will be pleased to receive trade literature. His home address is now 48 Branksome Road, Norwich (Eaton 1551).

## PRACTICES AND PARTNERSHIPS

**Mr John Bickerdike** [*A*] has taken in as an associate partner **Mr P. J. A. Gower** [*A*]. The style of the firm has been changed to **John Bickerdike Partnership** at 37 Gloucester Place, London, W1 (Hunter 0775).

**Mr W. G. Crerar** [*A*] has commenced practice at Delshangie, Duncraggan Road, Oban (Oban 2422), where he will be pleased to receive trade catalogues.

**Mr Ian H. Gibbs** [*A*], late of the Singapore Improvement Trust, has entered into partnership with **Mr Denis G. M. Chalmers** [*A*]. They are practising under the style of **Chalmers, Gibbs and Associates,** 6B Oxford Road, Kingston 5, Jamaica, WI.

**Messrs Honeyman, Jack and Robertson** [*FF/A*] of 195 Bath Street, Glasgow, C2, have appointed **Mr Thomas Rankin** [*A*] as architect-in-charge of their branch office at 13 Allan Park, Stirling, where he will be pleased to receive trade literature.

**Mr W. Vaughan Jelley** [*A*] has commenced private practice on his own account and his new address is 'Le Coin', Bagatelle, St Saviour, Jersey, CI (Jersey Eastern 1135), where he will be pleased to receive trade literature.

**Mr Ivan A. Johnston** [*A*] has commenced private practice at Vernon Chambers, Vernon Street, Liverpool 2, where he will be pleased to receive trade literature.

**Messrs Alister MacDonald and Partners** [*F/AA*] have appointed **Mr F. David Craddock** [*A*] to be one of the associate members of the firm.

**Messrs Blackburne Norburn** announce that **Mr G. C. W. Ogilvie** [*F*] retired from the firm on 30 June, and that the practice is now carried on by **Mr G. B. E. Norburn** [*F*], **Mr P. B. A. Browning** [*A*] and **Mr John Pickering** [*A*] at PO Box 890, Nairobi (Nairobi 23577–8) and PO Box 2871, Mombasa (Mombasa 6535), under the style of **Norburn, Browning and Pickering.**

**Mr John S. L. Smith** [*A*] has commenced practice at Bath Gardens, Bakewell, Derbyshire (Bakewell 568) where he will be pleased to receive trade literature.

**Messrs Trehearne and Norman, Preston and Partners** of Windsor House, 83 Kingsway, London, WC2, announce that **Mr A. F. A. Trehearne** [*F*] has retired and **Mr E. W. Preston** has retired but continues to act as a consultant. **Mr G. H. Hammond** [*L*] and **Mr A. J. Mole** [*A*] have been appointed partners, and **Mr P. A. E. Bryant** [*A*], **Mr E. T. Roberts** [*A*] and **Mr F. A. Hobart** [*A*] have been appointed associates.

## CHANGES OF ADDRESS

**Mr Philip Beauchamp** [*A*] has moved his office to 47 Mount Ephraim, Tunbridge Wells, Kent (Tunbridge Wells 22259).

**Mr W. K. Brown** [*A*] has changed his address to 16 St Mark's Crescent, Regent's Park, London, NW1 (Gulliver 7531).

The private address of **Mr R. G. R. Clark** [*A*] is 19 High Grove Road, Cheadle, Cheshire (Gatley 4195).

**Mr Brian Drury** [*A*] has moved his practice to Selsdon House, 34 Selsdon Road, South Croydon, Surrey.

**Mr Roger Dyer** [*A*] has changed his address to Apartment 1, 324 Pennsylvania, San Francisco, California, USA.

**Mr J. T. Ineson** [*A*] has changed his address from Architect, Public Works Department, PO Box 136, Accra, Ghana, to Architect, McManus and Company Limited, Orchard House, 54 Station Road, New Barnet, Hertfordshire, where he would be pleased to receive trade literature.

**Mr S. P. Jordan** [*A*] has changed his address to 13 Beauchamp Place, London, SW3 (Knightsbridge 4541–2).

The address of **Mr Victor C. Launder** [*A*] is now 2 Orchard Road, Backwell, near Bristol, Somerset, not 11 Orchard Road as previously.

**Mr M. K. Levy** [*A*] has changed his address to 17 Waltham Avenue, Kingsbury, London, NW9 (Colindale 8209).

**Mr C. B. Martindale** [*F*] moved his Beaconsfield office to 23 Wilton Road, Beaconsfield, Buckinghamshire (Beaconsfield 103), in January 1960, but trade catalogues are still being sent to his former address at 2 Assheton Road, Beaconsfield.

**Mr Peter B. Mead-Kidd** [*A*] has changed his private address to 'Wharfedale', 92 Brooklands Road, Brooklands, Sale, Cheshire.

**Mr Michael M. Mitchell** [*A*] has changed his address to 4071, 19th Avenue, San Francisco 27, California, USA.

**Mr F. G. H. Murcutt** [*A*] has changed his address to 'Cowage', Whetham, Calne, Wilts. (Bromham 374), where he will be pleased to receive trade literature.

**Mr J. Newlove** [*A*] has changed his private address to 4 Saunderson Road, Penistone, Yorkshire.

**Messrs Gordon Payne and Preece** [*A*] have changed their address to Grosvenor House, Station Road, Gloucester (Gloucester 24471–2).

**Mr Peter M. Richards** [*A*] has changed his address to 139 Lifstan Way, Thorpe Bay, Essex.

**Mr H. L. Shah** [*A*] has changed his office postal address to PO Box 1971, Dar es Salaam, Tanganyika, where all mail should be directed and where he will be pleased to receive trade catalogues and technical literature. The office address remains at 13 Textile House, Bagamoyo/Market Street, Dar es Salaam.

The address of **Messrs Stenson, Hope and Clark** (Mr W. H. G. Stenson [*A*], Mr J. A. Kerr Hope [*A*] and Mr R. Coulter Clark [*A*]) is Lonrho Buildings, Baker Avenue, Salisbury, Southern Rhodesia.

## PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Old-established and progressive firm of Yorkshire architects wish to contact similar firms in London and other parts of the country with a view to amalgamation, basically to

expand the scope of both practices, or would consider buying practice where existing partner is contemplating retirement. All communications will be kept strictly in confidence. Box 156, c/o Secretary, RIBA.

Associate (40) with small office and practice in central London wishes to work in association with provincial architect having work but no office in London. Box 164, c/o Secretary, RIBA.

Associate (50) who has spent some years farming but is now working as an assistant, wishes to purchase partnership or established practice that would yield an income of £1,000 per annum minimum. Capital available. Good knowledge of Hants, Dorset and Wilts. Box 165, c/o Secretary, RIBA.

Associate wishes to hear of established practice for sale in East Anglia. Box 167, c/o Secretary, RIBA.

ARIBA, ARICS (Building), age 38, now overseas, wishes to obtain partnership in small/medium provincial practice or as Senior Assistant leading thereto. Outlet for enthusiasm and hard work essential. Excellent administrative ability and wide experience, especially schools and hospitals up to £1 million value. Would be interested in gradually taking over practice of older member intending to retire. Some capital available. Box 170, c/o Secretary, RIBA.

Fellow with busy practice in Croydon is willing to offer partnership to a member, who, after a trial period as Senior Assistant, can prove himself efficient and suitable. Box 171, the Secretary, RIBA.

The advertiser (Box 147) in the July JOURNAL thanks all architects who wrote to him, and informs them that he has disposed of the practice. The letters of inquiry were very considerable, rendering it rather difficult to reply individually to all applicants.

## ACCOMMODATION

Members have two second-floor rooms available for short term letting. Area approximately 220 square feet. Additional area may be available later. West Central area. Box 163, c/o Secretary, RIBA.

Architect retiring from London, SW1 practice, wishes to dispose of his office furniture, including plan chests, DE drawing boards and T-squares, tracing binding machine, etc., also office accommodation with telephone and typist available if required. Box 166, c/o Secretary, RIBA.

Central London office offered with drafting and secretarial services to member willing to share on long term basis, terms to be agreed. Box 168, c/o Secretary, RIBA.

*The Royal Institute of British Architects, as a body, is not responsible for the statements made or opinions expressed in the* JOURNAL.


# ABS

## Loans for House Purchase

Funds are available for loans on mortgage of suitable houses and bungalows for occupation by the purchaser and we shall be glad to receive inquiries from architects and assistants. Details of the age and situation of the property, purchase price and loan required should be furnished. Appropriate arrangements can be made where building is contemplated.

Please communicate with:

The Manager,
ABS Insurance Agency Ltd,
66 Portland Place,
London, W1
(Telephone: Langham 5533)


# Book Reviews

**Clean and Decent.**
By Lawrence Wright. 8¾ in. 281 pp. illus. Routledge and Kegan Paul. 1960. £1 10*s*.

The author of this fascinating history of the bathroom and the water closet has set out to entertain, and does so marvellously well. The curiosities of plumbing, the morals of bathing, the niceties of toilet fittings – and there is no subject of fashion where distinctions are more subtly drawn between the U and the non-U – all are explored with a keen eye and amusingly discussed. French provincial boarding-houses seem to have been ransacked for illustrations, and those who have read Mankowitz's *The Blottik Monopoly* will suspect Mr Wright also of having cornered the market in decorated pans.

Alas, the famous old names of the English toilet, honoured on the Continent as veritable knights of the bathroom, are but a ribald jest in their own country, where little joy is taken in pleasures too voluptuous for puritans. The Americans, to whom passed the torch of modern plumbing, are shy even by British standards, if one is to judge from the bowdlerising of bathrooms in a famous New York hotel, where all bidets were removed to avoid outraging American matrons.

That the author has produced such a feast without going further afield than Great Britain, France and America can only underline the vastness of the subject. Perhaps he may be encouraged by deserved success in this venture to guide us later through the mysteries of the Russian bath, the Finnish sauna, the bathing ghats of the Hindu, the Jewish mikveh and the Japanese communal establishment. In the meantime, those who have sketched Parisian pissoirs, sat on the marble conveniences provided by a thoughtful Roman architect for the public of Leptis Magna, and experienced the delights of the revolving hair brush not so many years ago in Brewer Street, can only sigh nostalgically, as they turn these pages.

*The Specialist* provided light relief to the elementary drainage studies of architectural students. If Mr Wright's book became compulsory reading for their lecturers in sanitation, it might go far to enliven the teaching of a dull subject.

EDWARD JAMILLY [*A*]

**The World's Metropolitan Areas.**
By International Urban Research. 8¾ in. 123 pp. Berkeley and Los Angeles: U. of California Press. Cambridge U.P. 1959. £1 2*s*. 6*d*.

This is a useful tabulation of the major urban areas of the world, 1,046 in all, compiled by International Urban Research in the University of California. It outlines the problems of delimitation, and stresses the fact that many local government boundaries have no significance in the context of real metropolitan areas: a gross population of 100,000 is taken as the qualification figure with a few exceptions. The most important implication of this book is that the metropolitan area, a distinctly mid-20th-century phenomenon, is at last being recognised and is becoming the object of serious studies on a factual basis. Although it represents only a beginning, it will be an important reference book.

Yet it may already be out of date. For instance, this work, compiled in 1956, excludes from Greater London, Aldershot, Farnborough, Brighton, Worthing, the Medway Towns and Luton, all of which are listed as separate metropolitan areas. Even in this country it is becoming recognised that Greater London covers the majority of south-east England, is ever expanding, and furthermore forms part of the west European urban complex stretching from Amsterdam to Paris and from Liverpool to the Ruhr. A global view of urbanisation is now necessary. This volume is a start towards the analysis of a great change taking place in our midst, almost unnoticed, yet of very great significance to us all.

JOHN TOON [*A*]

**Planning Homes for the Aged.**

Prepared under the editorial direction of Geneva Mathiasen and Edward H. Noakes. 11½ in. 112 pp., illus. New York: F. W. Dodge Corporation. London: Interscience Pubs. 1959. $12.75 or approx. £6.

There are few books containing practical information for the architect on the planning of homes for the aged and those that are in existence all seem to be American.

The majority of such buildings in this country are sponsored by local authorities, and since the National Assistance Act of 1948, the incidence of building is increasing rapidly. Owing to shortage of building materials and labour, the first post-war homes were mostly converted mansions which, while having the advantage of continuing to look like homes and not like institutions, equally often had the disadvantage of being unsuitable to plan efficiently for their new purpose. Costs of conversion also tended to be uneconomically high.

At the present time, however, most of the homes being planned are completely new, and full use can be made of the specialised knowledge now being made available in books such as this one.

The type of home dealt with in the book under review has a much larger schedule of accommodation than that normally provided in this country. Obviously, it helps a great deal to lower the cost per resident place by building for 100 residents, but there is always the danger that a home of this size will tend to diminish the intimacy of the home and savour of an institution. On the other hand, it would not be economical to build or administer a home for fewer than 25 residents.

Section I of the book consists of eleven chapters each written by an expert in his or her own field. Chapters 3, 4, 5, 7, 9 and 10 will be of most interest to the architect reader. Chapter 3 deals with the location and the type of site for the home, and due emphasis is placed on the need for it to be sited near shops, libraries, churches, cinema, and a centre of population from which staff can be drawn. Chapter 4 contains sound and practical information for the architect on the communal sections of the home such as living-rooms, dining-rooms, recreation room and garden. Chapter 5 gives an archi-

tect's view of the planning of the residence unit and room, the latter consisting of a bed-sitting-room with its own garden and lavatory. There is a lot to commend this arrangement, but it would seem to be a planning luxury we could never afford in this country. Chapter 7 gives invaluable information on administration and staff facilities which appear to cover a much wider arrangement than we would encounter in the normal home in the United Kingdom. Useful guidance on service and mechanical facilities can be found in chapter 8, and chapters 9 and 10 provide sound advice on construction, finishes, fire safety precautions – building costs and design generally. Stress is rightly placed on the fallacy of estimating the cost of homes on a 'per bed' system, or on floor area per bed, the point being made that the service facilities would be more or less the same for a home with 50 beds as for one with 25, and the kitchen for a 50-bed home would not have to be twice as large as that for a 25-bed home.

In Section II of the book there are illustrations of the prize-winning and honourably mentioned competition designs for a 100-bed home for the aged on a site of the contestant's selection. Space prevents comment on the plans, except to mention that there are some very interesting ideas which should stimulate the minds of those architects in this country who are engaged on the planning of such buildings.

The book is very well produced, the plans, illustrations and typography being of a very high standard. The cost, of course, is very high by English standards, but can be well balanced against the instructive information available to the specialist in this type of structure. J. SELBY DAVIES [*A*]

**The Lamp of Beauty: Writings on Art by John Ruskin.**
Selected and edited by Joan Evans. 10 in. 338 pp. excl. 78 plates. Phaidon Press. 1959. £1 12*s.* 6*d.*

Of the great triumvirate of 19th-century Gothic propagandists, the modern student tends to find Pugin the most attractive. Viollet-le-Duc, largely through Summerson's essay, 'Viollet-le-Duc and the Rational Point of View', may catch his imagination too, but Ruskin, despite his tremendous influence (still evident, though often unrecognised), is by and large at a discount. As a person he seems to have had too many of the characteristics of the great Victorian – aloof, self-centred, a crashing bore. The picture of the young Christ Church undergraduate, taking tea with his mother every afternoon during term, in her rooms in High Street, and that of the mentally clouded old man at Coniston do not help to modify this assessment; nor does the familiar and ponderous library edition of his works. However, thanks to Dr Evans and her publisher, the balance may now be somewhat redressed.

*The Lamp of Beauty* is an anthology of Ruskin's writings on art, selected with the care and authority which one would expect from their editor to provide, in an extremely palatable form, a comprehensive picture of Ruskin's critical methods, the development of his personality and the growth of his ideas. Nearly half the book is devoted to his writings on architecture and sculpture, and the reader will find all the 'key' passages from, among other less well-known works, *The Seven Lamps*, *The Stones of Venice* and the *Edinburgh Lectures*.

Beautifully produced, with 13 of its 78 plates illustrating Ruskin's own exquisite drawings, the book would make an admirable gift to anyone prejudiced against the great critic. Not its least valuable feature is Dr Evans's short introductory essay which gives a succinct account of Ruskin's literary career. F. I. JENKINS [*A*]

**Town Planning in Czechoslovakia.**
Ed. by J. Hrůza. 6¾ in. 193 pp. Assocn. of Czechoslovak Architects.

'The preservation of the whole environment should be considered the chief aim of the preservation of monuments in a modern town.' To accomplish this aim a special State Institute for Reconstruction of Towns and Monuments was founded in Czechoslovakia in 1954 and a full-scale reconstruction of several towns has already started under its guidance.

Most of the historical buildings which are being renovated, with a minimum of structural changes and a great deal of attention to detail, are used for utilitarian purposes.

To preserve the character of the environment, street lighting, signs and inscriptions are carefully restored and it is intended, step by step, to get rid of unsuitable public buildings erected in the 19th or early 20th century, which are spoiling the historical core of several cities.

Other parts of this booklet, with many plans and photographs, produced in English for the 5th Congress of the IUA in Moscow, 1958, deal with regional town and country planning, town planning, and new towns and housing estates.

The necessity for regional planning is growing with the development of new industrial areas in parts hitherto predominantly agricultural. There is an intricate system of planning authorities and some of the more complicated regional plans have to be submitted for approval, amongst other institutions, to the trade unions.

It is interesting to note that in housing construction in recent years private construction nearly equals State activity.

S. B. H.

**English Collegiate Churches of the Middle Ages.**
By G. H. Cook. 9 in. xi + 228 pp. 56 illus. 33 plans. Phoenix House. 1959. £2 10*s.*

The wide diversity in the architectural scale and pretension of the collegiate churches, successive changes in individual status, and the constitutional variety of the colleges of priests which served them may explain why they have not received comprehensive collective treatment anywhere among the vast literature of the medieval Church in England. Mr Cook claims to provide no more than an introduction to the subject, in giving a separate account of each of 35 colleges, including two in the City of London, of which there are now no material remains. His examples are carefully chosen to represent the wide range in character of both personnel and architecture which the subject offers and which are hard to classify. Mr Cook, however, surmounts this last difficulty by establishing seven categories comprising pre-Conquest, episcopal prechantry and Royal foundations; chantry, extra-parochial and academic colleges; and chantry colleges attached to parish churches.

The evidence afforded by this selective survey would suggest that the only approach to a distinctive architectural form for collegiate churches was that adopted in the Chapels Royal (with the exception of the greatest of them, at Windsor) and the chapels of academic colleges founded by William of Wykeham. Among these are to be found the most significant architectural incidents – the early liernes of the Canterbury school in the lower chapel of Westminster, and Hugh Herland's early high timber fans at Winchester.

No one familiar with Mr Cook's earlier studies of the cathedral and medieval parish churches will find that his treatment of the present subject is less firmly based upon a wealth of historical data. Much of this material is of greater interest to the ecclesiastical and educational, than to the architectural, historian, but in defining so closely the function of collegiate establishments it can only contribute to a better appreciation of the churches themselves.

The description, wherever possible, is accompanied by a plan of the church and, in nine cases, by a plan of the college buildings; the 55 half-tone illustrations amply support the text.

H. E. STUTCHBURY [*A*]

**English Furniture Designs of the 18th Century.**
By Peter Ward-Jackson. 11⅛ in. 78 pp. + 366 plates. HMSO. 1959. £3 3*s.*

This is a good book for many reasons, and not least because among the 366 drawings and engravings reproduced in it there are a few wonderfully bad designs. We have all been told too often how civilised, how elegant, how impeccable in taste, how perfect in proportion were all the products of the 18th century; and what a sad decline followed it. It is at least arguable from some of these designs, not that everything changed after the industrial revolution, but that everything remained the same. The English designer's capacity for frightfulness has perhaps been constant through the centuries!

But in the 18th century they did not often make things to frightful designs. When it came to making, they used good ones, often very good indeed. It seems that the makers always had the sense to know a good thing when they saw it, and to adapt it to their own ideas, with improvements.

Mr Ward-Jackson remarks that: '. . . It is not to be supposed, however, that the ordinary 18th-century cabinet-maker came to rely on pattern books or drawings by professional artists for his designs. On the contrary, despite the rise of the professional designer, the greater part of the enormous quantity of furniture produced in the period was probably designed by the cabinet-makers themselves. . . . Again, if cabinet-makers were incapable of making their own designs, it would be hard to explain why they so seldom copied the many suitable engraved patterns which circulated during the second half of the century. Why, for example, have so few existing pieces of furniture been found to correspond with Hepplewhite's admirably practical designs? The reason, no doubt, is that few cabinet-makers of the day were so barren of ideas as to descend to slavish copying. They adapted their style to the latest fashion, as illustrated in pattern books, but they usually invented their own designs instead of taking them ready-made. . . .'

This state of affairs is perhaps not very surprising after all, for these engraved 'designs' for all their apparent explicitness were with few exceptions really sketches: that is to say, indications of an effect and never intended to give precise details of the form of anything: still less to tell someone how it should be constructed. Any one of them could be interpreted in a great variety of ways. Even the worst, favourably interpreted, might look well. If a maker chose to follow any of them, the standing and quality of what actually resulted would depend quite as much on his interpretation, as on the designer's conception. The makers evidently took it for granted that a 'design' was a point of departure and not necessarily a thing to be followed. Considering the extent to which they employed carvers, it could hardly be anything more than that. It is in practice scarcely possible to 'detail' any but the very simplest carving.

The illustrations are principally taken from the very fine collection of drawings and engravings in the Victoria and Albert Museum, and are thoroughly annotated. The book provides a bibliographical guide to the furniture pattern books of the period and contains a good critical analysis of the origins, interactions and development of 18th-century ornamental styles. It is well designed and represents remarkable value for money.

DAVID PYE [*A*]

**Sculpture at Chartres.**
By Peter Kidson. 10 in. 64 pp. + 117 photographs. Tiranti. 1958. 18*s*.

This, in my view, is a wonderful book. It is a great feat to absorb, sift and analyse the learning of the principal scholars in this field of art history – not all of whom are conspicuous for their coherence – and produce at the end of it an essay, which is both a really valuable contribution to our knowledge of medieval sculpture and also enjoyable, even exciting, to read. Dr Kidson has done all this, and Miss Pariser's photographs are worthy of the text.

J. C. P.

# Correspondence

**The Development of the Architectural Profession**

*The Editor*, RIBA JOURNAL

Dear Sir, – I should be most grateful for the privilege of space in your JOURNAL in order to thank Mr Frank Jenkins for his careful and sympathetic review of my recent book, *The Development of the Architectural Profession in Britain*.* Mr Jenkins is that rare thing, a reviewer who has clearly read the book he is reviewing and I am grateful for both his praise and his critical comments.

Mr Jenkins points out that not enough was said in my book about the nature of 19th-century patronage, nor about the changes in the building industry. I agree entirely with this criticism. In particular, the growth of large-scale building contractors did much to clarify the architect's status, and I hope that any of your readers who may take up my book will take note of Mr Jenkins's comments.

Mr Jenkins quotes my (hypothetical) example of a building in which all the structural decisions that had been taken could be justified technically: He observes: 'It is of course possible to visualise buildings in this category for they have always existed and presumably always will. Nevertheless, the fact remains that a great many modern buildings, ostensibly unequivocally "functional", *do* involve an often considerable range of purely aesthetic choice.' Now of course I did not wish to suggest that modern architects do not exercise aesthetic judgement in their designs. What I was saying was that, inasmuch as the same solution may these days satisfy both technical and aesthetic considerations, the artistic dilemma which was so acute in the 19th century is no longer a matter of urgent concern to architects. In this context, an example from the same issue of your JOURNAL is of interest. On page 326 there is a photograph of the model of the winning design for the Sydney Opera House by Joern Utzon. In the caption we are told that the design 'has since been modified, and in the opinion of Mr Ove Arup, the structural engineer for the building, the beauty of the shell forms has been enhanced now that they have been mathematically determined'. One wonders whether this is also the architect's view. Of course, the choice of one mathematically-determined curve in preference to another may remain an aesthetic choice, or it may be dictated by, for instance, acoustic considerations. Or, and this would illustrate my point, the same curve may best suit both technical and aesthetic requirements.

Yours sincerely,
BARRINGTON KAYE

**Design of Gardens**

Dear Sir, – The RIBA have produced a hand-out for the public entitled 'Your House – Why You Should Use an Architect', which as the title suggests, explains the advantages of employing an architect to design a house. In this hand-out it is claimed that the architect can design the garden in conjunction with the house. It is quite unethical of the RIBA to make such a claim, as membership of the Institute does not require a knowledge of horticulture or of the range and character of plant material. Without such knowledge, no garden can be competently designed.

Members of the Institute of Landscape Architects are trained to solve problems of design for small gardens and large landscapes, and could in fact even advise architects on the best placing of houses in relation to the landscape, which is something architects are not generally trained to appreciate. The best way that an architect can help his client is to advise him to engage a landscape architect. The client can then expect to have a properly designed garden.

Yours faithfully,
RAY MILLER [*Student*]

The layout of the garden, in this context, is not intended to embrace planting in the 'Percy Thrower' sense.

Sir Edwin Lutyens owed much to Gertrude Jekyll, but not everything. Since his day the contribution of architects to the design of space round buildings is surely not in dispute. In the case of small gardens, where they tend to become outdoor rooms, a trained architect can, if his client so wishes, use his skill to great effect. If the task were beyond him, and the client's means adequate, it would certainly be his duty to suggest the employment of a landscape architect. Many architects are themselves members of the ILA. – *Ed.*

**The New Format of the Journal**

Sir, – In an age when oddity is seemingly synonymous of originality and brashness the emblem of progressive thought, the JOURNAL maintained a dignified balance between the staid conservatism of a professional institution and contemporary technology. Then came the Chilean tidal wave and now, in its wake, the new look JOURNAL with all the gambits and gimmicks of a printer's 'Monkey' to shock not only the members, but surely the publishers of *Penrose Annual*, that review of the Printers' Art.

Let's get contemporary in the parish hall may be an inevitable theme, yet surely if change there must be, then the new production should be compatible with the Profession's oft professed design ability and the present high standard of British printing skill. Tragically it is neither.

Black-edged obituaries may be too Edwardian, but a blue obituary is singularly inappropriate for even a deceased tale spinner, while the tone bears little likeness to the field in which cherubim and seraphim were once depicted and its very neutrality lacks seemliness.

White letters on a black box may be more readable with the JOURNAL on the floor and the reader on the bed, but need the JOURNAL cater for teenagers and contortionists?–particularly when a column title in plain 'caps' is sufficient for any reading dodger.

Logical argument can, no doubt, be deduced to favour of a 'Burnett, Tate and Lorne,' white type face on black ground, but surely there is neither logic nor artistry in using both for a title, or for giving unequal emphasis to one part. And why oh why, must letters replace The Royal Institute of British Architects, must the WC cult permeate everywhere?

Indeed Sir, the new-look JOURNAL needs only one thing to reduce it to the debased level of cheap publications and that is the small page insert serial story. Maybe this is still a pending improvement in the course of placating the change at any cost phalanx.

I am, Sir,
Yours faithfully,
E. LEIGH TON BLACK [*A*]

Dear Sir, - If you can bear just one more letter on this subject, the question that has occurred to at least one reader is, what was the matter with the JOURNAL as it appeared around 1937? Externally it looked what it was, the journal of a learned society. Internally, it was printed in Baskerville (also used for the text of an advertisement on page 58 of the current issue), a type which some of us think has never been excelled in elegance or legibility.

Yours faithfully,
H. D. DAWSON [*A*]

*The price of this book is 25*s*., not 21*s*. as was given with the review.

# Architecture in Evolution

The Annual Discourse, 1960
Given by Dr Constantinos A. Doxiadis
at the RIBA on 10 March
The President, Mr Basil Spence, in the Chair

## Where is Architecture Tending?

I often feel rather like an itinerant master-builder of the past. But, on my travels around the world, offering my services to people, I do not trudge the roads carrying my tools on my back. On the contrary, I use the aeroplane to make my long journeys all over the world. And on these long flights I sometimes wake up in the middle of the night and am frightened, because I find myself in a dark circus in the heart of a city, with bent people hurrying in different directions in the dark all around me.

I look down one street and see a building illuminated for a few moments before the darkness blots it out again, only to lift over a different street, another illuminated spot, and then another and another. Sometimes it is a skyscraper that I see or it may be in the far distance a whole radiant city. At other times it may be geodetic domes, prefabricated houses or a series of shells. I see monumental architecture, monuments of the past and monuments of the present: now the Acropolis, the Renaissance and Gothic Cathedrals, the Taj Mahal, the squares of Florence; and now the spreading nomadic suburbs of the American, the Canadian or the Australian city, and looming over all, the MOTROPOLIS, the city of motor-cars – houses, factories and buildings of all kinds, highways crossing the cities, but above all cars, cars, cars; cars driving around in the dark and passing through the architecture of the past and the present.

There I stand in the middle of the circus, frightened as a child lost in the dark, wondering which road I should take, which way I must go.

## An Epoch of Transition

We live in an epoch in which we are compelled to face many problems, some of which we have inherited from the past and have so far remained unsolved.

Architecture today is in the process of an evolution more intense than ever before. Of course, architecture has always been in evolution, but it did not formerly create such confusion in men's minds. When architecture was passing from archaic to classical Greek and then from classical to Hellenistic Greek, or from Early to Late Renaissance or Baroque, the evolution was a slow one. In those cases it took centuries to complete the cycle from the earliest forms to the decay of those same forms. Now the pace of evolution is such that we are presented with enormous problems.

But we are not dealing here with an isolated phenomenon, for our era is in itself one of great transition; transition from the old to the new, from traditional to modern, from the conceptions of the past to the conceptions of the future, and so from the problems of the past to the problems of the future, and architecture is being very much affected by all these changes.

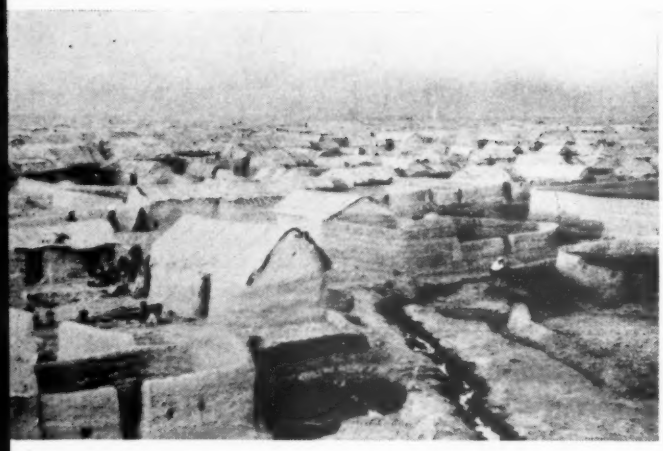
If we ask ourselves what it is that we are facing, we find that it is a real revolution from the academic to the modern, a revolution which, although it started some generations back and has, in some respects, been successful, has nevertheless not yet been completed. Were the case otherwise, we should not be faced with such problems today.

It is a revolution which, in one way or another, has overthrown the gods of the past and made every one of us architects feel like a god, a god who is now entitled to create from the beginning something completely new. Many ideas and proposals are put forward – a phenomenon which is useful up to a point. But as one who has travelled throughout the world, I can assure you that, though men everywhere are trying out new wings, they do not always reach even the lowest clouds, much less the sun. All too often our modern Icarus falls and breaks his wings. The streets of our cities are littered with the broken wings, the soiled and ruffled feathers of the architects who have tried to fly too high.

We might perhaps say that such attempts at least give public opinion the chance of freely selecting from all these proposals and ideas. This is something which looks very democratic, but it is not true, because public opinion is not free; it is the slave of its old habitat, which is the city of the past, and bowed down under the inertia created by its own environment. Every single one of us is a slave who bears on his shoulders the weight of his surroundings, the architecture of the city of the past, in the same way that he bears his doubts, the weight of which he cannot get rid of as he takes his garments off at night, and thus is not free to select the way he would have liked his architecture to be. Public opinion, therefore, very often demands the traditional, but in demanding something reminiscent of past creations, it forgets that old houses, as Lorca said, are created not by architects but by time.

Thus we are obliged to live in the midst of an order which is still in existence, an order which is again being imitated, and, in spite of that, to create anew. This is a difficult task.

Here we need to clarify in our minds what we mean by 'new' and 'modern'. When we speak of 'modern', do we all mean the same thing? Some of us may mean the 'modern' of horizontal lines which was opposed at first to the 'old' of vertical lines, and others may mean the prefabricated building or the aluminium water-tank which defines the skyline of our cities. Or do we mean the spherical house, or the skyscraper, or perhaps even the full-shell endless house that some people are attempting to create? We have not yet answered these questions, and, in reality, there is no agreement as to what is modern or new.



Although we are surrounded by a few modern creations, we still have a preponderance of old ones, because economic forces and the inertia which they create do not allow us to change our habitat as we might change our clothes or our minds.

Looking around, however, we do not see merely the distance between the old and the new. This is limited very often to the skin of our buildings, that is, the surface of our architecture. If we proceed to look inside our habitat, our cities, and our buildings – that is at the way we are living – into the heart of our architecture as a whole, then we shall see the homeless and badly housed hundreds of millions, who constitute the majority of the people on the earth, living in very bad conditions indeed. Moreover, it is not only that the majority of mankind is ill-housed but that many of our needs are not served at all, or are at very best badly served in the wrong kind of buildings, in buildings small and inadequate to our needs.

How do we react to the fact that most of our needs are very badly served in buildings of lower quality and standard than they should be and smaller than they should be to serve the corresponding needs? Let us be frank and state that we usually forget the quantitative question. Do we think that it has no influence on the situation? What percentage of the people actually have the privilege of proper houses or schools or hospitals? Do we think of that as architects? If we do, we must recognise that we have quantitative as well as qualitative problems to tackle, and perhaps it is timely to admit that the quantitative questions are usually left aside, our attention being directed mainly to the qualitative ones.

Acknowledging this, we must turn our attention for a moment to something more substantial than architectural design, and that is to the question of how we live. We must find an approach to the problem not of how our architecture is to look, but of how it is to serve us. What is more, we must admit that we do not live as we would wish to live, so that an even more difficult question arises. How, in fact, do we want to live, and what are our ideals? Do we want to live in multi-storey buildings or in single-family detached houses or in rows of houses? Then, let us ask ourselves how we move. Do we want to walk or do we want to move on elevators, escalators and moving paths? Do we perhaps want to be transported on moving bands within our buildings, as has recently been proposed?

We must ask ourselves if we can define our ideals for a better way of living. Only if we really know how we want to live and what our ideals are can we find answers to our many problems, because only then shall we know what our targets ought to be.

There is no doubt about it that, living in this era of transition, we as architects shall have to tackle all kinds of quantitative and qualitative problems before we can find our way.

## Problems, Causes and Effects

Let us now analyse our problems, asserting once again that they are of a quantitative and qualitative nature and remembering too that, in speaking of the real substance of architecture, we must acknowledge that the basic problems are the ones of people badly housed or not housed at all, of people very badly served by their existing buildings, whether because of their size, their nature, their shape, or their appearance.

If we want to comprehend our many and varied problems more fully, we must try first to analyse them on the basis of the laws of cause and effect. If we try to understand the new forces which are at work and which are responsible for the situations that we are finding so difficult to face, we must first grasp that the causes of our problems in architecture are basically similar to those of many of the problems of our era. Let us try to look at them in a statistical manner.

### The Population Explosion

Our first problem is that which is sometimes called the 'population explosion'. Our earth has never before witnessed such an expansion of its already teeming millions, with the result that, while the population grows faster and faster as modern medicine moves ahead, its increase is not paced by an equal increase in architectural activity, so that many people are left without the necessary houses and buildings. We are facing the largest gap between population increase and architectural production in quantity and quality than ever before, which has resulted in the worst possible situation.

Whenever and wherever there is a growth in population, the production of goods lags behind for some time until the whole productive machine has adjusted itself to the increasing need. In architecture, a field of human activity where great and varied production efforts are still required, from building materials to finished architectural products, this lag is perhaps worse than elsewhere. It was possible in the past for the number of corresponding architectural workers to increase at the same rate as the expansion of the population itself, but now a gap exists and it is this gap that is responsible for an enormous number of our quantitative and qualitative problems. What happens is that in trying to face a quantitative problem as soon as it arises we do in fact make an increased effort, but since this is an effort for which we are substantially unprepared, the result is only that the quality of our work, as a whole, falls off.

### Rapid Socialisation

The second basic cause of our problems is the rapid socialisation of every aspect of our lives. In the past, even until one or two generations ago, the architect had to work for priests

and kings and nobles, building cathedrals, monuments and palaces; later on he had to work for a few wealthy citizens and for local bodies in cities where the municipality itself assumed responsibility for the central parts of the city, including the public squares and civic centres. Now, however, our whole attitude is changing and the attention of governments, societies and local bodies alike is turning to the service of all citizens. Housing is now to be provided for everybody, and everybody is to be given all the facilities offered by modern society. All this amounts to a change in concepts. The scope of the architect is no longer limited to the upper classes and the building of monuments. Thus we see how the great problems created by the growth of population are being aggravated by the rapid socialisation of our age.

### The Intrusion of the Machine

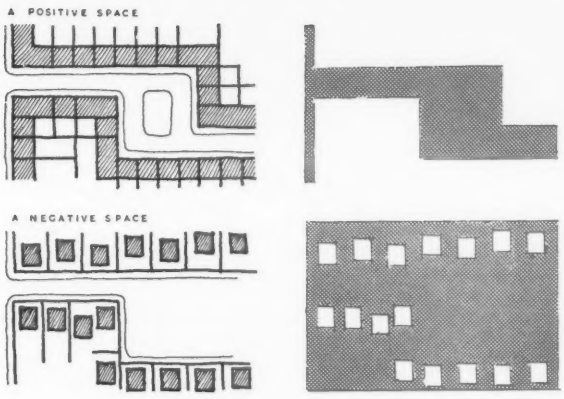
Now a third force comes into play. The third major cause of our problems is the intrusion of the machine into our lives, which has had a double effect. Its first effect is due to the changing pattern of transport and is an effect of scale. The style of the architecture of our cities, which was formerly defined by man alone, is now defined by taking man together with his machines. Standing central to our concept of the man-machine scale, as prime mechanical element to have entered our lives and changed our pattern of transport and thus influenced our architecture, is the car.

Formerly there was man, moving at a speed of some three miles an hour; now there is the car, moving at speeds of up to and even over 100 miles an hour, so that man and his motor-car are at odds. He is soft whilst it is hard; he is slow whilst it is fast; he is small whilst it is large.

The motor-car has changed our conception of the space we are living in. It has turned free human beings, the masters of their cities, into slaves of their cities, because it has taken over from them the best parts of their streets, elbowed them out of their courtyards and squares, and prevented them from looking at their buildings and approaching them in the proper way.

By bringing man and motor-car into conflict, we have dissatisfied both, for we have broken up the scale of life together with the scale of architecture. Especially have we made man unhappy, for he has become a mere displaced person within his own city. But we have made our cars, or rather their drivers, unhappy too, for, although designed for much greater speeds, our cars are compelled to cross the city of man at speeds such as six miles an hour in cities like Glasgow or ten miles an hour in cities like London.

The effects of this situation on architecture are many. Primarily, we have lost public space, and, in losing this, man has lost his normal relationships to architecture. Our buildings are no longer directly related to man, for in many parts of our greatest cities they appear to be floating within a lake of cars. Our monuments and statues, too, can no longer be seen in their proper perspective because of the break in the relationship between the human being and his normal surroundings.




The second effect of this intrusion of the motor-car is that in many countries people are tending to live at greater distances from the city. In gaining the facility of travelling home by car, they have broken the architectural unity which previously existed by building detached houses with great distances between them, in gardens where they are isolated from each other in the rural landscape. Thus spaces are formed which in the end have a negative character. The space within our urban landscape formerly had a positive form, whether square or circular; it had its own characteristic shape. Now, however, space in many places has taken on a negative, not a positive, character. That is a grave mistake on our part.

So we have managed to separate man from architecture within our cities, to split up the space in our suburbs and to create negative spaces, which once again divide man from his architectural surroundings. The love affair between man and architecture has been broken up by a third party! Now we live in space which is a negation of synthesis. It is a step backwards.

What is more, the car has already been followed by another machine which is influencing our pattern of life. This is the aeroplane, and it is soon to be followed by the rocket. So our man-scale for defining our relationship to architecture has now become a scale of man, car, aeroplane and rocket. For one master we have substituted four, and these four masters are breaking up the space in which we live and create our architecture. In so doing, they are creating even greater problems for us.

### Industrialisation and Modern Technology

The fourth cause of our problems is industrialisation and modern technology, both of which have contributed to the growth of architecture in the third dimension. Because of industrialisation and new methods of construction we now have skyscrapers as an element in our architectural environment, an element which thrusts on us new problems in technology and architecture. The traditional methods and simpler types of construction with which we were formerly content are gradually giving way to a complex architecture in which only modern methods and materials exist. Between these two types of architecture, the old and the new, there occur many hybrids of traditional and modern methods, raising an enormous number of technical and aesthetic problems in architectural creation.

### Urbanisation

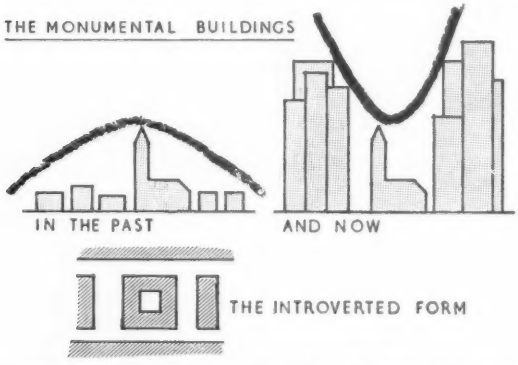
The fifth basic cause of our problem is urbanisation. Urbanisation is the result of the previous forces of population, growth, socialisation, urban industrialisation and modern means of transport, but it constitutes in itself the major cause of all our problems, for it has totally altered the scale and environment of our architectural creation.

The growth of population in our age is not evenly spread

throughout the countryside but is much larger in the urban areas. A most cursory examination of the population trends already apparent in several countries, and latent or emergent in the others, establishes that for the countryside we must expect a slowing down in the rate of increase, which will later on lead to a decrease in population. In the minor urban centres, on the other hand, the rate of increase is noticeably higher than the average for the country as a whole, while in the larger urban areas we have an even larger rate of increase. It is unrealistic to say that these trends are temporary and are going to be reversed. We have to face the situation as it is, and this shows us that where we have greater needs for architecture, there shall we encounter greater problems.

Most of our buildings are now created within urban areas, and architecture is of necessity influenced by its new environment. We have already seen that architecture has reached out both in height and depth, but this is not the only or even the major phenomenon of architecture in the urban areas. We have its conflict with modern means of transportation, but we also have the fact that in the growing urban areas, those buildings of the past which gave to their cities a monumental character, such as churches, city halls, palaces or monuments, are now passing to secondary importance within the city, simply because they were conceived as buildings of only a few storeys. But due to generally improved building techniques, the church is no longer the tallest building in the city, and the same applies to all our monumental buildings, so that the direct influence of these buildings on the people is decreasing, while, at the same time, their very function as symbols is itself declining because they have lost their significance in the scale of the city. The large buildings of the past which were of a monumental nature constituted at the same time the major elements of the city, controlling its rhythm and imposing their character on it. Now they have become relatively small, and thus their influence on the city is correspondingly so diminished that we can already feel the gap. We need only look at a church within a growing city, hidden between much taller buildings, to realise that what was originally a convex city skyline whose salient features were the city's monumental buildings, has been metamorphosed into a concave one in which those same buildings have been dwarfed into insignificance.

So there is a big change in our architectural set-up. Monumental buildings in the past were expressing in a better way the architecture of the average buildings, which was emphasised by their height, and they were then the real city, for, as Sir Christopher Wren said, 'Architecture has its political use, public buildings being the ornament of the country; it establishes a nation, draws people and commerce, and makes the people love their native country, which passion is the original of all great actions in a commonwealth'. Today, these public buildings are small. But even that is not the worst of it. These buildings were always conceived as monumental, and as such were planned on introvert, closed schemes, schemes such as cannot stand expansion. The functions they serve, however, must and do undergo a continuous expansion. Let us only think of our universities, colleges and hospitals, buildings around us which we all know, and consider what their needs will be 20 or even 10 years from now. Their needs will certainly be greater, but since many of these buildings have been conceived in monumental styles, with introvert schemes, they cannot stand expansion and so will be unable to serve their purpose any longer.




The monumental buildings of the past with their pre-eminence gave to the city its character and identity. But the size of modern buildings has completely overshadowed them

It is the conception of monumentality in buildings that has led to introvert forms, and it is these forms which in their turn have arrested the possibility of normal growth and of normal expansion in the function of many of our buildings and so created bad architecture. We are left with the resultant rigid and unexpandable forms as fossils on our hands.

**Developing Economy**

The sixth force influencing architecture is the developing economy, which leads to increased incomes and thus increased needs for every kind of facility, as well as changing notions of what constitutes the ideal house or the ideal school – changing notions of architectural requirements.

**The Seventh Cause**

Finally, the seventh cause of our problems is the very coexistence itself of all previously mentioned forces of population growth, socialisation, mechanisation of transport, industrialisation and technology, urbanisation and economic development in the same age, the age in which we live.

Let us try to understand just how great the changes are which result from this coexistence in the same age of all the factors we have analysed. We have a growth of population, to which must be added the factor of greater income. For a population growth of 1 per cent per annum, we must add a growth in *per capita* income of 5 per cent per annum, which results in a 6 per cent per annum increase in the demand for architectural creation. Socialisation, the expansion of the subject, may increase this 6 per cent by an additional 4, 5 or even 6 per cent, so that all this will add up to 12 per cent per annum at length, even if socialisation takes a long time to achieve. This 12 per cent for a country may, in fact, mean much more in the urban areas, because the growth of population income and socialisation in urban areas is moving at a different speed from that in the rural areas, a factor which may result in as much as a 15 per cent or 20 per cent increase in the demand for architectural creation. If we compare these figures with the increasing problems, the difficulties arising out of new techniques and other new factors entering our lives, we shall begin to appreciate the true size of the problems before us.

Now it is natural to ask whether these ever-growing problems which we first presented as quantitative ones do not have their influence on the qualitative problems too.

We have only to remember that if we spread socially we shall acquire different needs to be served and shall have to go back to simpler forms of expression. After all, there is a world of difference between the concept of working on a limited number of monuments and that of working for the many who require not monumental buildings but services. We have only to think that, through the tentacular spread of our suburbs over the countryside bringing us into contact with nature and new forces which were unknown within the medieval city we have inherited, we are breaking up our architectural creation by producing what are in effect negative spaces and so heaping fresh difficulties upon our own heads. We have only to remember that the impact of the transport machine on man is changing our patterns of life, to see that, in spilling out as we are into space because of economic growth, we are reaching new areas, rural areas and under-developed areas which have never been served before. It is natural that this process should bring into play new

geographic concepts, such as the concept of other types of climate, and that these new concepts should require new thought and new solutions.

The coexistence and interplay of all these many forces we have referred to often compel man to leap from a nomadic or rural pattern of life into a modern industrialised system. A shepherd or farmer may have to become an industrial worker overnight, that is, a free organism in nature has to become a disciplined social organism. This is only one example of the colossal strain which is imposed today on human beings and which is forcing us to seek new solutions in architecture so as to save man from the breakdown with which new ways of living are threatening him.

We can also understand how important is the changing rate of growth if we look at some of our cities. For instance, the area of Athens, where Western civilisation was born, never inhabited by more than 200,000 people over a period of thousands of years, suddenly mushroomed in a mere 50 years to contain almost 2,000,000 people. Similar cases could be cited throughout the world to show us how large is the cumulative effect of all these forces. If we consider merely that the building wealth created in Athens during the last 15 years alone is 40 times as great as that created during the whole of the classical period, we shall impress on ourselves yet again the significance of the changing rate of growth.

It is clear that we are now dealing with a dynamic situation which creates a different category of problems for every aspect of our lives and with it fresh demands for architectural creation. I shall mention but one example to demonstrate how these forces work in influencing architecture and creating new problems for us.

Let me take the case of types of urban houses, the problems they raise and the solutions which must be found for these problems.

It is obvious that an increase in population, especially in the urban areas, demands a much larger production of houses. Then, too, industrialisation implies and demands that people should be mobile as between area and area, town and town, neighbourhood and neighbourhood, so that the working population can be adjusted to the location of its employment. The forces of socialisation, on their part, demand that whatever measures we take must be taken for everybody, so that we must stretch our resources over great numbers of people. Economic limitations, on the other hand, compel us to limit our resources to what is indispensable and to make the greatest possible economies, for otherwise the broad mass of people would simply remain without facilities altogether. All these factors taken together mean that today the existence of large palatial houses is quite impossible and that we must build smaller houses for everybody.

### The Life-Cycle of the Family

We must now turn to the life-cycle of the family. It begins as a small unit of two, then becomes larger and larger, and finally becomes smaller and smaller, until it is at length extinguished. Seen from the criterion of the best possible economy, this fact makes it unreasonable for us to build a house at its final size right from the beginning. What we need is a house which will grow as the family grows and then contract as the family contracts. If we follow the flexing life-cycle of the family, we shall find that at the beginning we may need a small unit, let us say, of two rooms for a small family with a low income. When children arrive, one unit can be added, making four rooms, and later a further unit, making six rooms in all. Then the time comes when two of the three units suffice again, so that the third can be taken away and given to a second family. When the size of the initial family decreases even further we could dispose of a second unit too, which could be given either to the second family or even to a third one. Later, the first family disappears from the picture entirely, and the second family grows and may take over the whole house, perhaps at the cost of pushing the other families out. When it begins to contract in its turn, this second family begins to be displaced by another, which then commences to grow in its turn until it gains complete control of the house. Thus we have a new dynamic condition within the notion even of the single family house.

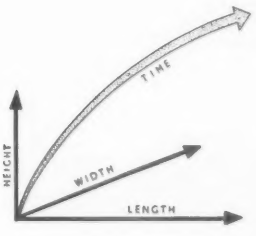
Such ideas change the whole concept of a house, and we must ask ourselves whether we want to build houses to which we can add or take away parts at will, or whether we want to tackle the situation in some other way. This is something which must be viewed within the overall perspective of an architecture still to come.

The fact is that in the past we could afford to build private houses for upper-middle class families which were large from the very beginning and could remain so even if inhabited by a comparatively small family, or even the last survivor of a family, together with any servants. But then in those days the majority of families had no decent houses at all, and that is a situation we cannot afford in the world today.

With public buildings the case is not the same, for there we have to do with but a single factor – growing needs. A school starts in a neighbourhood with few children, but the neighbourhood grows and the number of children increases. Unless the density of the area is increased by official action, or the area changes from a residential into a commercial area, the school will have to grow. The school will thus always need at least the same number of rooms and may indeed need more as time passes, for the functions which have so far been served within the existing space may later require more space for functions which are gradually added.

If we now try to pinpoint the main characteristic in a situation which has so radically altered the framework in which our architecture is created, we shall discover that what has really changed is our notion of time. Of course the population would have grown, of course socialisation was already on the move, and of course the machine had already been introduced into our lives, but the changes which these phenomena caused were all taking place at a different, a much slower tempo. Our needs were certainly increasing, but more slowly. What is really different in our age is the *tempo of change*.

Summing all this up in another way, we might say that the basic problem of architecture today is the addition of the dimension of time to the three-dimensional synthesis we have had to handle up till now. In place of static situations involving slow change, such as was the case in the old walled cities, confined within their limits and having the same populations for centuries, we are now caught up in dynamic situations bringing the most rapid changes in their train, with the conquering of the third dimension of height and the fourth dimension of time. The fresh demands brought about by the dynamic situation with which we are dealing are creating new obligations for us, are forcing us to think deeply and ask ourselves if we should not change our concepts about the building of cities. How can we face this situation, this new era of change, the most characteristic feature of which is that the tempo of change has altered and is increasing enormously? We have to understand that it is this that makes the radical difference in the present situation and outlook for architecture.



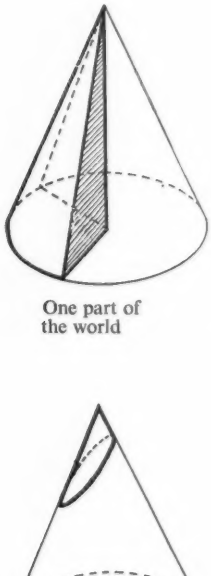

The city was three-dimensional but the new ones acquired a fourth dimension, time, whose role is often more important than that of the other three

## Facing the Evolution of Architecture

The looming nature and magnitude of the problems of our evolving architecture are yet vague in their manifestations. We may realistically compare them with a tide, a tide which is rising so rapidly that it threatens both architect and humanity. Let us examine how the man in the street and the architect are facing this rising tide. The man in the street feels the needs which should be met and also feels the growing problems, but he cannot analyse or even become conscious of them. Nor can he express himself over the lack of houses and appropriate buildings, or raise his voice to cry out against the utter impossibility of the cities he lives in. It is up to the architect to appraise this rising tide with an expert eye and try to stem or at least to regulate it. After all, it is his responsibility and he is the only one in a position to offer an expert solution. This being so, let us see what the contribution of the architect is towards the creation of architecture in the world today.

Schematically, we can show the products of architecture in the central part of the city. All around it we have 'scattered' solutions. Then we have to think for a moment of these open spaces. Are people not building there because architects are not available to them? No, thank God! They have not realised the lack of architects and they are still building as they have been doing for centuries. This construction of buildings by people without the use of architects is something that we must keep in mind. We must not think that only we create what is built, but must remember that for thousands of years people have been building and creating good architecture which we like, respect and visit. We enjoy going to the Piazza San Marco and sitting down and having coffee and spending hours there, because they have created for us architectural surroundings the likes of which we have not been able to create, as our architecture lies on the street and comes in contact with the motor-car.

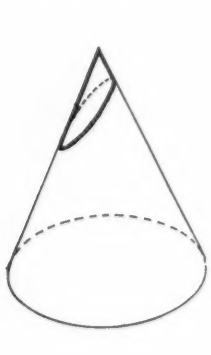
If we take the total creation in the field of architecture as a single cone, at the base of which we have the simplest buildings and at the summit of which we have the largest and most monumental ones, then we can make some statement based on a knowledge of the situation throughout the world.



One part of the world

Only the urban part of this part

Only the central parts of the cities



This is the influence throughout the world

Only one segment of the whole cone of architectural creation represents the field of activity of the architect, and that is the urban segment. Of the urban segment, again, only the centre of the city is actually in his hands, and even there it is only the upper expressions which are under his direct and personal control.

If we now turn our eyes to the total volume of the architect's influence throughout the world, we shall see that we are, in effect, referring to only a very small part of our cone. It may seem strange to us that such a very small part of the total building activity throughout the world is, in effect, under the direct influence of the architect, but it is a picture which is entirely justified. After working in several countries and compiling statistics, I found that, in fact, the architect's influence over large areas of the world is zero. It is very small, too, in many developing countries, and reaches a maximum of a mere 40 per cent only in a very few countries, such as England. A second zone of influence, namely, projects influenced by the architect but not directly designed by him, may represent a maximum of another 20 per cent, which raises the previous percentage to a new maximum total of 60 per cent, but only for a very small part of the world. There is yet a third zone of influence – and this is the worst category – hybrids, that is, those projects where architecture is misinterpreted by us and by the public. This again changes the overall picture but this time without implying any amelioration of the situation.

The fact remains that, taken as a whole, the total of the architect's activities throughout the world is very small indeed. What is more, if we bear in mind that architecture is more often than not created on the basis of a town plan having no architectural conception whatever, we must necessarily conclude that the total effect of architecture on the creation of new space is even smaller than was represented in our most optimistic statistics – perhaps as little as 4 per cent.

Thus, if we look at architecture in space, we shall see that its direct influence applies only to some very small islands. It is true that it influences some larger areas indirectly; but it is questionable whether its indirect influence in those areas is, in fact, of a beneficial nature and not a harmful one.

These last remarks raise a basic problem concerning the very nature of architecture. What do we mean by architectural creation? Why do we speak of the limitation of the influence of architecture to a certain area, of its influence on additional areas, and of its complete non-existence in other areas of the world? The design of the previous three charts is based on the fact that we have assumed architecture to be a product of the organised technology of developing countries, a science and an art which can be taught in our universities. In this sense, it certainly has the influence that we have described. But it was not always so, for architecture, the art of the architect – in Greek *architecton* – in fact means the art of the master mason, of the master builder. As such, it was the expression of the best techniques available in a given age, as well as an expression of those powerful minds which through natural selection found themselves at the top of the cone taking over the leadership of the other masons. It was the monumental expression of a craft of building actually being exercised by every mason and builder throughout the country. It is only during the last few generations that the situation has changed and that architecture has been directly created at the top, spreading from there to the lower levels. After five years' training, we now immediately take over the whole leadership and become master builders. This is a necessity, as we do not have the time any longer to follow the gradual process from masonry to architecture. Thus, where architecture formerly expressed the high points of a craft being carried on throughout the world and was a natural product of the total experience in building, it is now conceived and taught to people at a different level and tries to influence the total activity from the top downwards.

The present method of creation in architecture is different of necessity and thus creates different problems for the archi-

tect. He was once the product of evolution but has now, though young in experience, to conquer the world. Contrasting presentday architecture with the architecture of the Greeks, *Architecton*, the Ma'mur Khan of the Moghuls, or the master builders of the Middle Ages, we can make two observations. On the one hand, the architect has been set right at the top of the cone, so that he must step down again if he wishes to exercise his influence – sometimes he believes this is degrading – while, on the other hand, he has been banished from the building site and so has lost contact with the actual construction. Once he was first a mason and then a master builder; now he is a master builder who must descend to become a mason.

Now, after studying this, I think we at least know where we stand. We have a body of architects practising a different type of architecture. Let us face the problem and see what we can do.

What is the role of the modern architect in the face of the rising tide and how can he solve his problems? Is he to remain at the top of the cone and from there try to influence the foundations? Must he remodel our cities, fighting a losing battle as he contemplates the angry sea of old constructions around him and feels the waves of new constructions buffeting him on all sides? Or must he create something new, have a new approach? This big dilemma of ours is the powder train to a fresh salvo of questions for which the architect must brace himself. Where is our new creation to be born and grow – in urban or in rural areas, in the old countries or in the new? Is the creation of new capitals like Chandi-Ghar – where British architects are contributing – or Brasilia, or the new capital of Pakistan, or those of the African countries, a mere coincidence which will have no influence on the future trends of a wider evolution?

Here we have the architect facing important problems and asking himself whether he is to face the total architectural creation or sit at the top of the cone and try to influence it downwards, whether to turn his attention to the development of a simple type of building or to simply build monuments.

These are the questions urgently demanding our attention as we contemplate the evolution of architecture.

## New Solutions for New Problems

It is at this point that the architect must seek the road into the future. Is this road already visible? I think not, because, as we have demonstrated, there is such a multitude of new factors entering our lives that it is as yet too early to decide which road to follow. What the architect can do is to stand still for a moment and think seriously about his future, for the great problems around him find their echo in the equally great problems within him. He must adjust himself not only to the changing world but also to the changing requirements of his profession, and even to the notion that he may be on the wrong course altogether and have to alter it. However, this dark picture I have presented needs to be modified. Although there certainly are problems and we have to recognise the new needs and trends, we should not be afraid, because we can already see the beginnings of solutions all around us. If we analyse these new solutions in relation to our needs, trying our best to understand what the new requirements in fact are, then we shall be better equipped for the road ahead.

We have already spoken of the fresh forces which have entered the arena: forces either economic, social, political, administrative or technological. Architecture is no longer a matter to be decided solely by the architect, but must be thought out in conjunction with many other people and co-ordinated with many other views. Nor is it any longer sufficient to say that we can indeed create the best architecture but that society does not understand it or that governments cannot finance it, so that it all remains stillborn, a vague cipher on paper. This is not architecture, but merely designing. Architecture exists only when it is built, when it is implemented.

We live in a developing world, and the only justification for architecture is its connection with the overall evolution of society, if we define this as the expression of all the forces which influence the creation of buildings, bearing in mind that the architect is conditioned as much by economic as by aesthetic considerations.

If we view architecture as a part of the overall development going on around us, we will understand how far it is conditioned by environmental factors and that these must be seriously taken into consideration. Architecture must be co-ordinated geographically, that is, with its environment at the local level. The house we build must be co-ordinated with other houses, buildings, squares, open spaces and traffic, but it must also be co-ordinated at a broader level with other similar activities. If we think of materials, then we must think not locally but nationally, perhaps even internationally, about the availability and economics of materials, about the labour force, and about the economics which are influencing our creation. All these aspects must be integrated one with the other, as well as with other aspects of our activities. We must find the proper solutions for schools, for housing and for all the many kinds of buildings and functions which constitute our total architecture. Finally, we shall have to give a regional, a national, and sometimes even an international co-ordination to our efforts, so that we can view our achievement within the larger framework of the world to which it belongs.

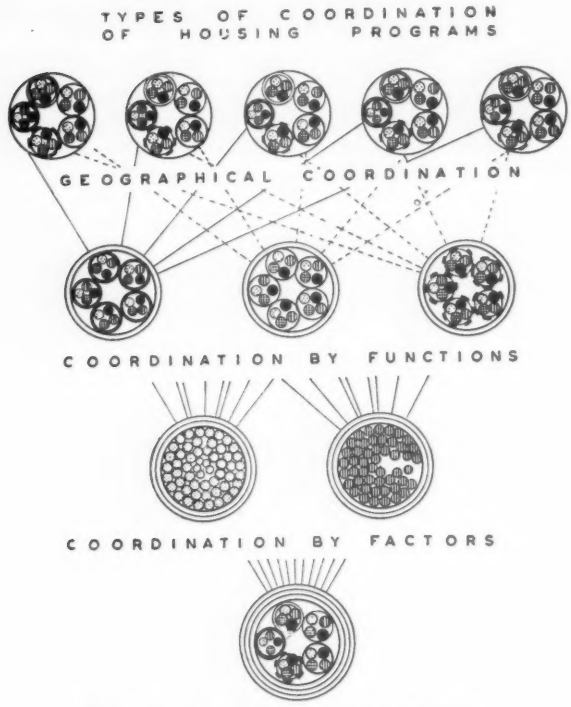
Since we are creating architecture mainly within existing frameworks, we must co-ordinate it with the past; but, since we are building it as something which is going to survive the generations to come, we must also co-ordinate it with the future.

Architecture may now be seen in its proper context, expanding in order to cover the whole urban area and not only the centre, expanding into the countryside, flowing over into other countries, and not limiting itself even to the Western World alone. Architecture is to cover areas which have buildings of one, ten or even more centuries old, so that by expanding in space it acquires the real perspective of time and is taught the rules of evolution. Our major lesson in all this is that the architect has to build in co-ordination with many other professions. It is up to him whether he is going to be guided by those professions, or comply with their rules, or be, in fact, the master guiding them in the field of his own creation.

### Ekistics

Before he can begin to face such a new situation, the architect must progress in his mind from the old notions of architecture to the contemporary notions of *Ekistics*. He must learn to apply these notions all the way from designing a building to conceiving and facing up to the overall problem of the human settlement of the earth. *Ekistics*, the science of human settlements, co-ordinates economics, the social sciences, the political and administrative sciences, technology and aesthetics into a coherent whole and leads to the creation of a new type of human habitat. The architect must, therefore, enrich his knowledge so as to be able to cover the related fields and co-operate with the planner, the economist, the geographer, and the social scientist, as a member of a single team. He has, as we said, the chance of either guiding this team as its master co-ordinator or of being merely the man who executes decisions about his work taken at different levels. Architecture has to become scientific.

One might ask why architecture needs to turn to *Ekistics* in our age, and why this was not necessary before. The answer is that the architect is forced to possess much greater knowledge and much greater ability if he is to work together with a team and cope with the rising tide of problems today. Evolution was so slow in the past that ordinary men were able to adjust themselves to the changing requirements of




their age. Thus, to express the monumental architecture of his age, the architect – who was also the master builder – could gradually create solutions and forms within a normal process of development. He had learned over a whole lifetime the *Ekistic* requirements of his age. Such a situation is no longer possible, for in our world a single lifetime is not long enough to give us the experience we would require, and changes take place continuously. We are, therefore, obliged to learn and teach *Ekistics* before we are able to understand our problems, to grapple with them and thus find their solutions.

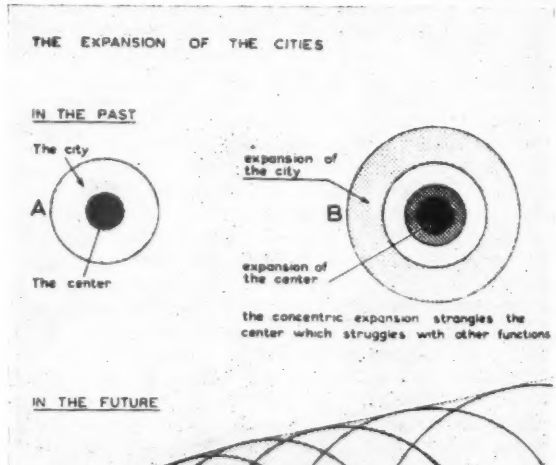
A little thought will show us the absurdity of what we still allow to take place inside the city, especially at the very centre itself. Where the need is for large streets to deal with heavy traffic, we have the narrowest streets; where we need big parking lots for public buildings, we find the smallest parking facilities; where we need large plots for private and public functions, there are very small and irregular plots; and where we need freedom for new designs and new requirements, there is no room to move at all. Where we need to expropriate and to change functions and facilities, we have the largest investment and a premium on land values.

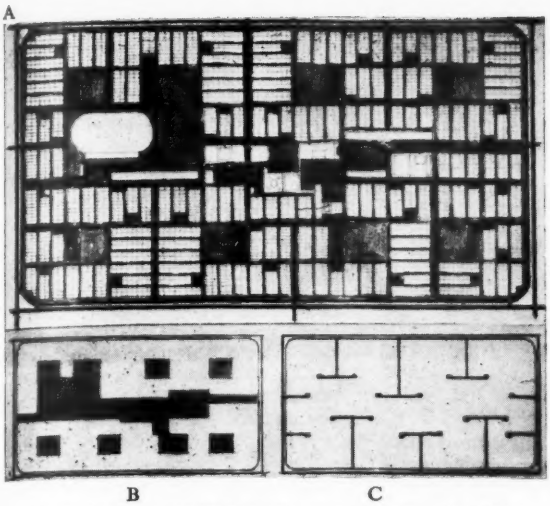
We must conclude that the framework within which we create our architecture is wrong and that architecture is compromising its most basic conceptions. It must be that we are on the wrong track. We have to find a new conception of the city. What we need is not a static city, the limiting forces of which we have just demonstrated, but the dynamic city – DYNAPOLIS – the city of the future, conceived as a city which can expand and always be ready to create a new centre and new neighbourhoods.

Within this city of the future we can now see and understand that there are two functions to be served. There are the central functions which are constantly expanding. These serve the whole city, whether or not they are actually at the centre of the city. On the other hand, there are functions which we might call peripheral, that is to say, houses or buildings directly connected to groups of houses and not central buildings. These are the two types of functions with which we shall have to deal in *Dynapolis*.

Yet, to say that we have set the general framework of our architecture by placing it first in a rational context and now within *Dynapolis* itself does not answer our specific problems. We have already seen that architecture has now to be created within a framework controlled by four masters – man, the car, the aeroplane and the rocket. We have seen, too, that it must be created within an expanding city. Now the question arises as to how we can set the specific framework for every single building to be built. The answer to this question is given by a very basic *Ekistics* principle for the future, the principle that we must establish separate scales for each of the four masters. Just as we create airports with special facilities and regulations for aeroplanes, or even larger launching sites for rockets, so we must separate the car from man in a positive manner. We must create the human sector in which man is the controlling factor, and then a sector where the car has priority, and so on for the sectors of the aeroplane and the rocket.

As the expanding city centre breaks into the City, smaller buildings (foreground) are torn down to be replaced by big blocks (background). But we only make the problem worse because we increase the functions, the traffic and the movements






In this model sector (A) high speed motorways along the sides accommodate the bulk of traffic. Access to the interior of the sector is effected through roads of controlled speed (C) which allow pedestrians to move from one part to another without crossing traffic at all (B)

So long as we keep man and motor-cars confused in our minds and in our cities, we shall achieve nothing, even with this notion of sectors, a notion which might well be the basis for the construction of the cities of the future. What we must do is create the human sector, a sector inside which man will be the controlling factor and impose his own scale. Although it will have to be served by cars, this sector must not be crossed by cars at all. Its ideal shape would seem to be an oblong, from half a mile to a mile in maximum length, so that people need walk no more than a distance of up to half a mile inside it to reach their schools, shopping centres, small parks, and cultural and social centres, as well as other basic requirements of their neighbourhood or community.

Such a sector must be conceived as a unit and as the shell of a growing organisation of the future. It will need to be as self-contained as possible, with centralised functions, institutions and facilities, and with its own transport system. It may even one day be covered in, so that its houses and buildings will be protected from the elements. Such sectors have already been and are being built in several countries for several types of community, and their existence is every day becoming more and more imperative.

These human sectors are going to replace the antiquated blocks of apartments and become the shell of the city of the future. Only in them can we create a proper framework for our architecture, which is otherwise going to be lost forever in a sea of cars.

Such sectors will have to be designed to meet a large variety of problems. They may some day need to become the framework for the creation of a radically different type of architecture in a different synthesis, but they will always have to remain human sectors, for it is only in such a way that we can achieve a greater synthesis, merging into broader and broader areas, until we at last fulfil our dream of *Dynapolis*.

Here I want to emphasise most strongly my belief that it is only through such a gradual process of building up sectors that we can ever create the city of the future, and that we cannot reverse the natural creation and expansion of a city and, for example, have our cars speeding along over the roof-tops, for this would seem to me a solution for the city not of the future but of the past.

I shall now try to illustrate these ideas with the aid of slides. This is a city of the past, with its centre and with a wall around it. The wall broken and the city spread into the countryside. The centre of the city, where its most important functions are carried out, had to grow. Can we think what would happen if the heart of a city was surrounded by a rim of steel? It would be choked to death, and this is what is happening to our cities. One after the other they are dying. We have only to stay a while in the heart of Caracas in Venezuela and see that we need two-and-a-half hours by car to go from one end of the administrative centre to the other in order to be aware of the fact that some of our cities already do not function. We have only to consider our inability to reconcile our demands for higher productivity with our inability to reach our fellow citizens during working hours and to consider how much time and energy is lost, to realise that we may have to think of new ideas for the city of the future. Our four-dimensional city, which is growing, cannot be left any more to expand in this way, for it would mean the end of our urban culture.

Our cities must be given the opportunity to expand in the right direction. Only if we build a number of subsidiary centres and let our city grow around them can we create a dynamically growing city where the main centre is free to move, expand and serve the residential areas. It is the only way in which we can pay due respect to the city of the past, which is entitled to survival not only from the economic but also from the cultural point of view, and at the same time create new areas and not merely fringes all around. New areas must be formed which will enable us also to live in the cities of the future.

If we take the other factors into consideration, the development of these ideas leads gradually from this first conception of a growing city to a geometric conception of the growing city and then to the complete conception of the growing city, which has to grow mainly in one direction and cannot overlap the central area, as we already have vested interests there. The result will be that we will have a gradual transfer of the centre of gravity along one axis and will have new areas to develop, always with their own centres, because the centres will have new functions which will correspond to the needs of the new residential areas. Thus we do not allow the old centre to die; we do not choke it to death by turning it into the centre of a city of not 100,000 people but five million people. We have, of necessity, to think along these lines in order to see how we can create better cities for the future.

These principles are actually being implemented. In this slide showing the future extension of the city of Washington, we see how it can extend in one direction in order to cope with all its problems of expansion. If we were to let such cities grow as they were growing, there would be no hope of creating the architecture we would like to create and which is indispensable.

But this is not enough. We have considered only one of the problems. There is still the conflict with the machine. Man and machines now live together, and this is certainly immoral! It does not lead anywhere. They have been born of different parents; they belong to different worlds, and we force them to live in the same narrow space, the space created for man. But it is too late to tell man to forget about the machine or the car. They are here to stay and serve us. But why should we let the machine be called the master of our cities? What can we do? We have to create a new type of approach. We need a sector surrounded by highways on which cars are free to run at any speeds, a sector, however, which cars will not be allowed to cross. The distances we should have to walk would not be long, because, as shown on this diagram, the residential sector has been designed and built so that the distance from car to house is 120 yards – exactly the distance covered by an American citizen who has to live on the twentieth floor of an apartment building, if he only reckons the distance he has to walk from the point he leaves his car until he reaches his apartment door, not including the vertical motion. Therefore, if we walk these distances even in our existing cities, why should we not be prepared to walk them in these schemes?

When I was explaining these ideas three years back at the Massachusetts Institute of Technology, I said that I could

foresee a generation of Americans with very thin legs and very broad heads who, when they walk in the streets, would need someone to support them. Everybody laughed, but only six months back a committee appointed by the American Government to find out why 25 per cent of the young men who apply for army service are rejected and why this percentage is so high, made a basic statement to the effect that this is mainly due to the fact that Americans are turning into a legless nation. Now that we have had this committee of doctors officially expressing this opinion, how can we justify ourselves in designing buildings in which we are not supposed to walk, like in a certain new airport terminal just recently completed? Where are we as human beings going if we deprive ourselves of this simple joy of walking, of conquering space by walking within space?

To solve this problem we need a new type of design. As this slide illustrates, we have a group of 100,000 people in single houses, with pedestrian ways, small squares, playgrounds, elementary schools, and so on – the whole forming a community surrounded by cars but not cut into or influenced by cars. We have actually prepared designs and built along these lines, and the results have proved very satisfactory to people wanting easy access to their houses from their garages.

The same solution can be implemented, as seen in this slide, where this sector allows us to approach our house by car, but if we want to go to the heart of our centre, then we have to drive in the other direction and approach it on foot.

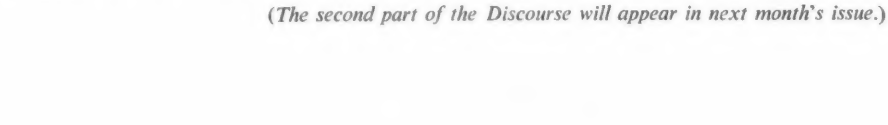
This is the design of a community class sector for the city of Philadelphia, and I mention it because Philadelphia has the greatest number of cars in relation to its population than any of the newer cities. Construction work on this sector starts next month, and the plans incorporate all the principles we have been talking about and work in with the existing district regulations about traffic and so forth.

If we want to create a synthesis of these sectors, we can see, as for example in this illustration of a part of Korangi which is under construction for 500,000 people, that minor sectors like the previous ones, with a total length of not more than a mile, get united into broader groups. Certainly here, in order to move from one sector to the other, people will need two level crossings or a control-crossing, but this is going to be necessary for only one-tenth of the movements of the people, because most of their needs will be served within the residential sector. It is such a community, which will have a broader shopping, cultural, commercial and industrial centre, that is gradually leading to the synthesis of the city of the future. In such a community not only the sector of residence, but also the cultural and commercial centres are designed on the basis of the principle that no traffic roads must cross them.

The central square is now going to be a peaceful area, because it will be surrounded by buildings and no traffic will come into it. People would enjoy living in such areas, whether large or small.

Now we have to come to another aspect. We have seen the synthesis of sectors along the lines of the cities of the future. How does this influence the dynamics of the architecture of the future?

*(The second part of the Discourse will appear in next month's issue.)*



Man separated from the machine. In this market-square people can walk about in peace and quiet without fear of cars

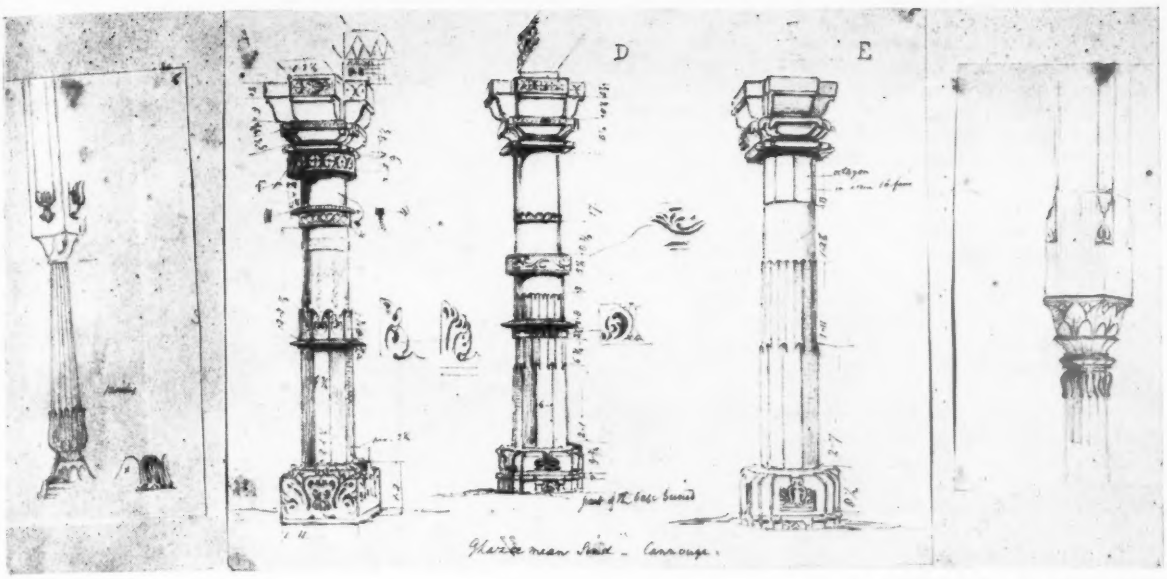



Fig. 1.—Architectural details from Kanauj, U.P.

# The Daniells in India and their Influence on British Architecture

A talk given by Mildred Archer to the Library Group on 21 March 1960 on the RIBA's Collection of Daniell drawings

In the 18th and early years of the 19th century the Orient had a marked effect on British architecture and interior decoration. Yet in spite of this country's close connection with India, it was China which exercised the greater influence. There was, however, a short period between about 1800 and 1830 when India and Indian architecture had a sudden revitalising effect on British taste and led to some novel building in England.

Two of the people largely responsible for this development were the artists Thomas and William Daniell, who visited India from 1786–93. Little was known of Thomas Daniell when in 1784, at the age of 35, he applied to the East India Company for permission to go to India as an engraver with his nephew William, a boy of 15, as his assistant. It would appear that he hoped to improve his prospects by a visit to India for he had had a hard life.

Born in 1749, Thomas Daniell began work as hod-boy to his bricklayer brother. But he must have had a great urge to paint, and in 1763 he became apprenticed to a coach builder where he painted and varnished carriages. At the same time he seems to have learnt to paint pictures, for in 1772 he had a flower-piece accepted by the Royal Academy. A year later he entered the Royal Academy Schools and studied landscape and portrait painting as well as engraving. During the years that followed he worked hard as a modest painter and practised the craft of aquatinting which had been introduced into England by Sandby in 1775. In 1779 his brother died and he agreed to take over the responsibilities for his nephew William, who was ten years old, and to teach him to engrave and paint also. Six years later they set out for the East.

At this time India was a powerful magnet for those who led hardworking and monotonous lives. Nabobs were returning with great fortunes and tales of Indian princes with boundless wealth. But for artists there was as yet little experience to benefit from. Tilly Kettle had certainly paid a successful visit to India from 1769 to 1776, but he was a portrait painter. Farrington, Zoffany and Hickey had left for India in 1782, 1783 and 1784, but no one yet knew how they were faring. William Hodges was the only artist whose experience could have been useful to Thomas Daniell for he was a landscape painter and his visit from 1780 to 1783 had been remunerative. It was perhaps as a result of his experience that Thomas decided to apply for a permit to visit India. It was nevertheless an act of courage and initiative, and these qualities were to reveal themselves throughout Daniell's life.

In April 1785 the two Daniells sailed for India via China. From Whampoa they proceeded by country-boat to Calcutta, arriving there early in 1786. Thomas Daniell at once set to work on making a series of 12 aquatint views of Calcutta and he opened a subscription list. It was a difficult task for he had to train Indian craftsmen to help him with the colouring and he was far from pleased with the result. In a letter to Ozias Humphry he wrote, 'It will appear a very poor performance in your land, I fear. You must look upon it as a *Bengalee* work.' However, by 1788 the work was finished and the Daniells were ready for the next phase of their visit to India – a tour of the 'Upper Provinces', the first of three ambitious journeys.

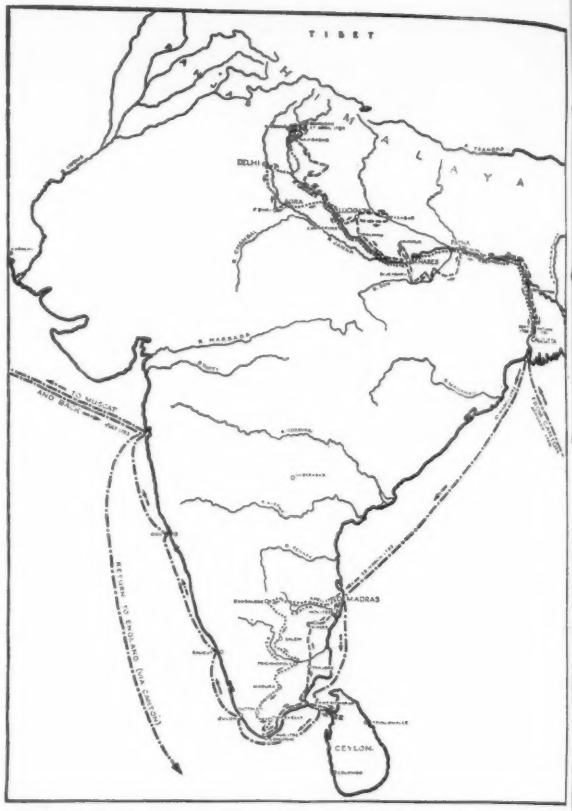
Careful preparations were made for this expedition – tents, two folding drawing-tables, a 'perambulator' to measure the mileage, a *camera obscura*, large quantities of paper, pencils, canvas and paints had all to be assembled, and servants recruited. Thomas Daniell's plan was to make a vast number of rapid landscape sketches and architectural notes as they travelled round India, which could later be used for engravings and finished paintings. William used the *camera obscura*, made simple sketches and did the apprentice-work – the straining of canvases and the 'dead-colouring'. During rest periods they ordered their drawings and made finished paintings which could be sold at the Presidency towns to provide them with ready cash.

The RIBA Library possesses a collection of 262 sketches

made by the Daniells in the course of their three journeys in India. 100 of these are small pencil sketches showing details of architecture and are carefully inscribed with measurements and notes (Fig. 1). These, as will be seen later, were to prove of great use after the Daniells returned to England. 162 are larger landscape drawings often inscribed with titles and dates. A few of these pictures are finished water-colours, but the majority are rapid sketches, sometimes in pencil, but more often in pencil and wash. Occasionally the Daniells included themselves in these sketches. They can be seen riding on horseback, or being carried up the hills in palanquins or *jampans*. Sometimes their pinnace is moored to the river bank while they work on shore and they can be seen sitting with their drawing-boards under large parasols with servants fanning them (Fig. 2). These landscape drawings provide a running commentary on the journeys of the Daniells in India.

Their first tour was made between August 1788 and November 1791. They proceeded up the Ganges from Calcutta by budgerow, stopping at all the British settlements and well-known picturesque spots on the way – Rajmahal, Bhagalpur, Monghyr, Patna, Benares, Chunargarh and Allahabad. They reached Cawnpore at the end of 1788 and then travelled up-country by palanquin covering about 14 miles a day. They were now leaving the area under British administration and entering disturbed territory where the Marathas were endeavouring to assert themselves and there was continual warfare between rival rulers. They had a guard of sepoys but on one occasion their camp was attacked by marauders. When they visited the Maratha leader, Sindia, they noticed a dead man lying at the entrance to his camp. But the Daniells took all these hazards in their stride, as well as the usual discomforts of Indian travel – the storms, heat, flooded rivers and long delays. They considered these difficulties well worth while for they were deeply impressed by the monuments, both Hindu and Muslim, which they saw on their route (Fig. 3). The next phase of their tour provided them with picturesque subjects of the greatest 'sublimity'. They struck north from Delhi into the Himalayan state of Garhwal and wandered amongst the great mountains. They were the first Europeans to penetrate this area and conditions were far from settled since the Raja was menaced by the Gurkhas. But the picturesque views of the hills and the trees and flowers, which reminded them of England, compensated for any anxiety they may have had. When invited by the Raja to assist him in fighting the Gurkhas, they politely declined and turned south towards the plains, journeying back through Rampur, Bareilly and Shahjehanpur to Lucknow. Here they stayed for about three months, but their visit was a disappointment. As a result of Tilly Kettle's experience, they hoped that the Nawab would be interested in their pictures, but picturesque landscape meant little to Asaf-ud-daula and he was 'not pleased to give any Commission'. But Lucknow had provided them with many interesting subjects and they were content to retrace their route down the Ganges to Benares. They were now attracted by the hilly country to the south-east of the holy city and they explored this area by pony (Fig. 4). On their way back to Calcutta they halted for a whole year from July 1790 with the Company civilian, Samuel Davis, himself an amateur artist, some of whose sketches William Daniell was later to engrave. Here they ordered and arranged their drawings and prepared a number of water-colours and oils ready for their return to Calcutta in November 1791.

Four months later, after a lottery of 150 pictures, the indefatigable pair set off for a tour of the south, which lasted eight months, from March to November 1792. They went to Madras by boat, hired tents, palanquins and bullock carts, and set out on a journey which took them through Mysore down to Cape Comorin (Fig. 5), across to Ceylon and back to Madras up to the east coast of the peninsula. This journey provided them with much material. They visited the picturesque hill-forts of Mysore, which had great topical

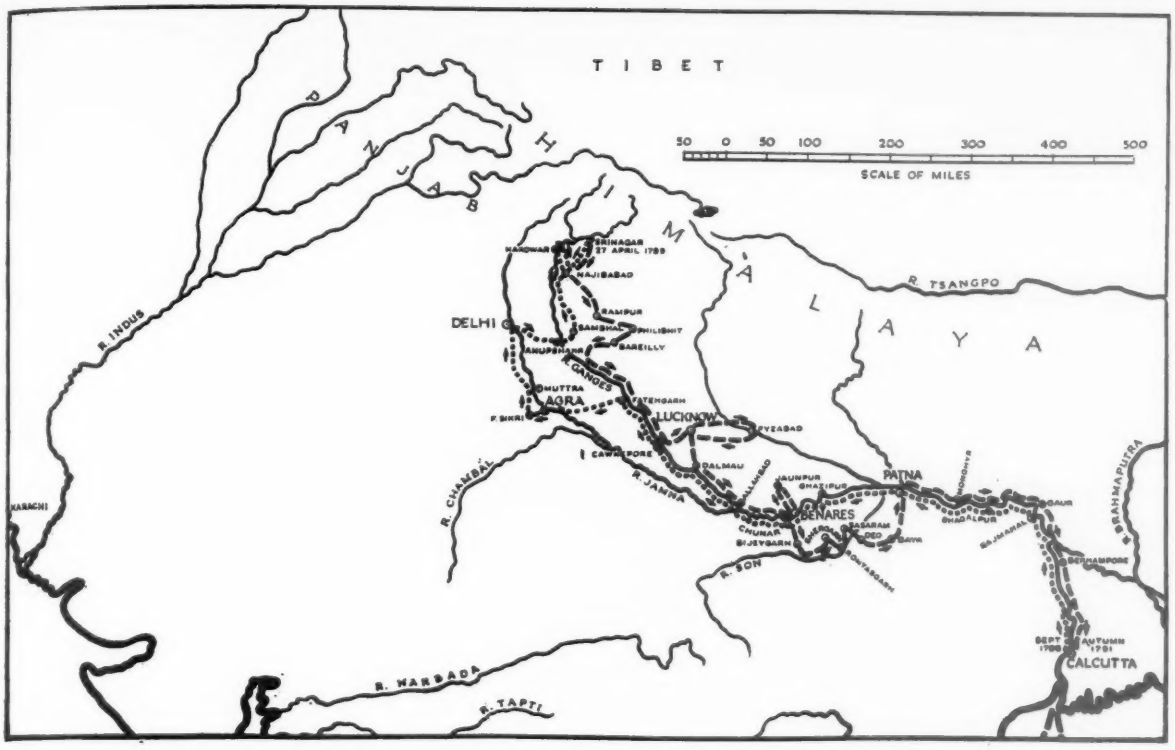


Map of India showing the Daniells' tours. The routes are given to a larger scale in the maps on the facing page

interest for they were the scene of the recent war between Cornwallis and Tipu Sultan; in fact the Daniells met a train of sick and wounded being carried back to Madras. In the south they sketched the great Hindu temples such as those at Madura, Srivilliputtur and Tanjore.

After another rest of three months Thomas and William set off in February 1793 for Bombay by sea around the coast of South India. From Bombay they crossed to Muscat, but here their visit was suddenly cut short. News arrived that England and France were at war and the gravity of the situation made the Daniells decide to return to England as soon as possible. They therefore returned hurriedly to Bombay, but it was several months before they could obtain a passage. They passed the time exploring the area around Bombay, visiting the Elephanta and Kanheri Caves in the company of the artist, James Wales, some of whose sketches they were later to engrave. At last, late in 1793, they sailed for Macao in China where they joined the convoy bringing Lord Macartney back from his unfortunate mission to the Emperor. They arrived home in England in 1794 after an absence of almost ten years.

With typical application the two Daniells at once settled down to make engravings from their sketches. William later admitted that for seven years after their return he worked from 6 a.m. until midnight almost every day. During the next 13 years they produced their great work, *Oriental Scenery*, in six parts, each comprising 24 views (1795–1808) and the whole costing £210. In 1810 they published *A Picturesque Voyage to India by the Way of China* with 50 illustrations. At the same time they produced numerous single engravings and every year each submitted a picture to the Royal Academy. They also worked up a number of their sketches into large oil paintings. Thomas was made an RA in 1799 and William in 1822. Thomas went on exhibiting pictures until 1829 when he was 80 and William


TIBET
PUNJAB
HIMALAYA
SCALE OF MILES
50 0 50 100 200 300 400 500
R. INDUS
R. TSANGPO
R. BRAHMAPUTRA
DELHI
AGRA
LUCKNOW
PATNA
BENARES
CALCUTTA
KARACHI
R. CHAMBAL
R. JAMNA
R. SON
R. NARBADA
R. TAPTI
SRINAGAR
27 APRIL 1789
NAJIBABAD
RAMPUR
BAREILLY
MUTTRA
CAWNPORE
DALMAU
GHAZIPUR
BUXAR
CHUNAR
SEPT 1788
AUTUMN 1791

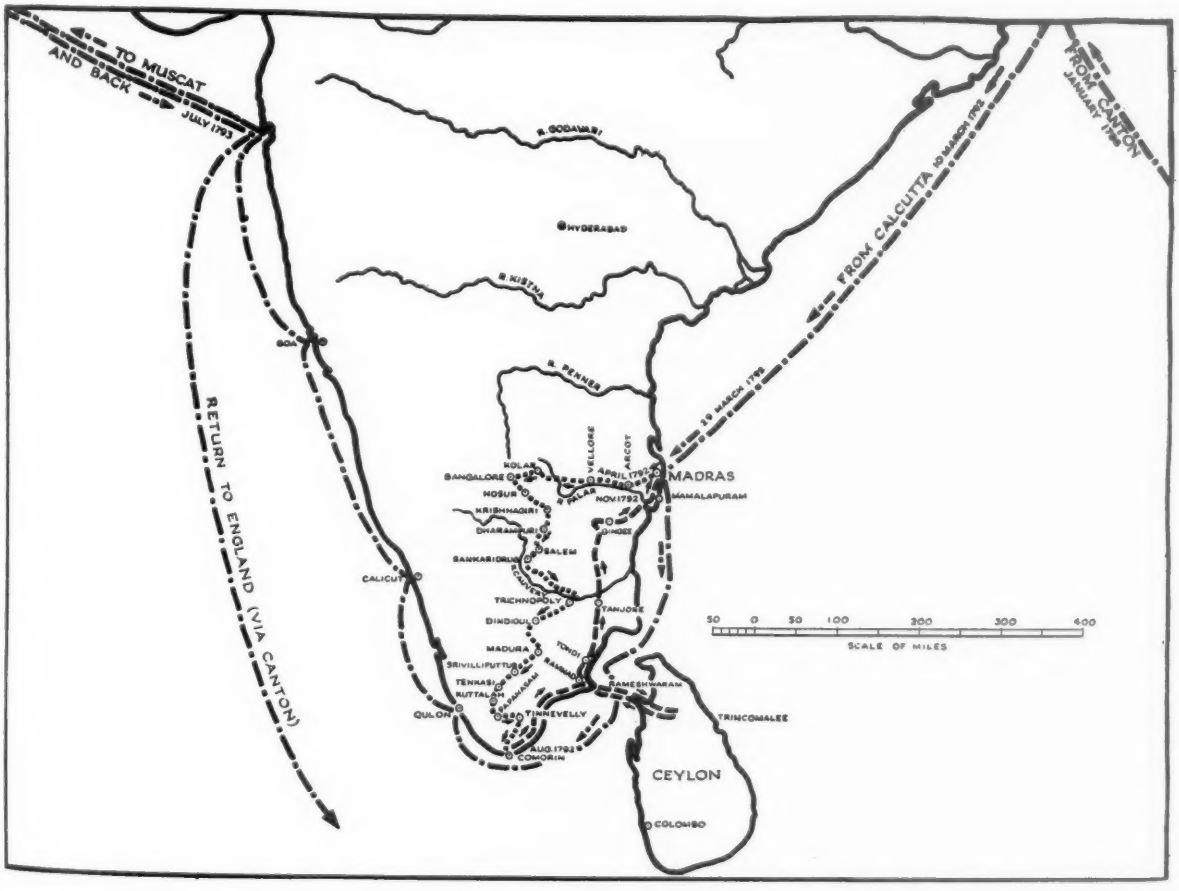

TO MUSCAT AND BACK
JULY 1793
RETURN TO ENGLAND (VIA CANTON)
FROM CANTON JANUARY 1793
FROM CALCUTTA 10 MARCH 1792
29 MARCH 1792
R. GODAVERI
HYDERABAD
R. KISTNA
R. PENNER
GOA
CALICUT
MADRAS
MAMALAPURAM
PONDICHERY
SALEM
TRICHINOPOLY
TANJORE
MADURA
TONDI
RAMNAD
RAMESHWARAM
TINNEVELLY
COMORIN
AUG. 1792
QUILON
TRINCOMALEE
CEYLON
COLOMBO
BANGALORE
HOSUR
KRISHNAGIRI
DHARAMPURI
SANKARIDRUG
ERODE
DINDIGUL
VELLORE
ARCOT
KOLAR
APRIL 1792
NOV. 1792
SCALE OF MILES
50 0 50 100 200 300 400

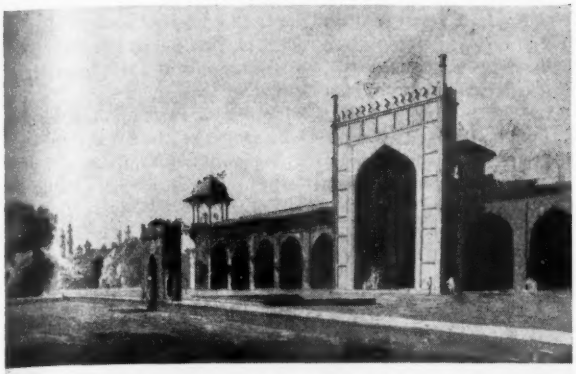
Fig 2.—Distant view of Hardwar, U.P., and the foothills, 4 April 1789

continued to use his Indian sketches until his death in 1837 at the age of 68. Both Thomas and William produced work of many other kinds during this period, but it was *Oriental Scenery* which made their name and provided them with a solid income for the whole of their lives.

The great success of *Oriental Scenery* can perhaps be explained by its timing. The Daniells were certainly great craftsmen with powers of hard work and concentration. But their sketches were no better than those of many talented amateurs in India and their engraving was no finer than that of the Havell family. Yet of all the landscape artists who depicted India it is the Daniells who are chiefly remembered. *Oriental Scenery* was in fact published at the very moment when the cult of the picturesque was at its height and the romantic movement in England was gathering momentum. William Gilpin was publishing his famous guides to sketching between 1782 and 1809, the very time when the Daniells were making their Indian sketches and publishing them. Price's *Essay on the Picturesque* was produced in 1794, the year that the Daniells returned to England. There was a mania for amateur sketching at this time and men and women were looking at the world through eyes trained to see the picturesque. *Oriental Scenery* was a superb example of the way people wanted to see the world. Daniell's compositions tallied perfectly with the rules laid down by Gilpin; here was the misty background, the interest concentrated in the middle distance, gnarled trees forming a frame on either side, the foreground alive with rocks, stumps of trees, creepers, rutted paths, and dark-skinned Indian figures adding that touch of wildness which was so admired. Everything fitted the picturesque formula. The capturing of the picturesque had in fact been the intention of the Daniells when they set out for India. In the preface to *A Picturesque Voyage to India by the Way of China* they had written, 'Science has had her adventurers, and philanthropy her achievements; the shores of Asia have been invaded by a race of students with no rapacity but for lettered relics; by naturalists whose cruelty extends not to one human inhabitant; by philosophers ambitious only for the extirpation of error, and the diffusion of truth. It remains for the artist to take his part in these guiltless spoliations, and to transport to Europe the picturesque beauties of these favoured regions.'

*Oriental Scenery* was also published at a time when there was a new interest in the exotic and the Orient. The delicate chinoiserie of the second half of the 18th century was going out of fashion. It had provided a gay alternative to Palladian classicism and had exactly suited the urbanity of that period. But new forces were now expressing themselves in politics, philosophy and literature as well as art. Amongst these was a new knowledge of India which had resulted from researches into Sanskrit literature, Indian philosophy and antiquities made during the brilliant period of Warren Hastings. It was this romantic interest in both 'the picturesque' and 'the exotic' which explains the success of *Oriental Scenery* and led to it appearing on the tables of cultured drawing-rooms.

But the influence of the Daniells' drawings and engravings reached further and soon affected architecture. Thomas Daniell was consulted about a garden-temple to be built at Melchet Park in Hampshire. This house had been bought by Sir John Osborne in 1792, a retired army officer who had been in India from 1766–80 and had been Commandant of the Nawab of Oudh's Light Infantry Battalion. He was a great admirer of Warren Hastings and wished to erect a garden-temple in his honour. Daniell was consulted and, as Osborne wrote, 'the design was furnished gratuitously by Thomas Daniell Esq. after the chastest models of Hindu architecture'. The scheme was indeed carefully thought out by Daniell. A bust of Warren Hastings was to be placed inside the temple, inscribed, 'Sacred to the Genii of India who, from time to time, Assume material forms to protect its Nations and its Laws, particularly to the Immortal Hastings, who, in these our days, has appeared the Saviour of those regions to the British Empire, this fane was raised by John Osborne, in



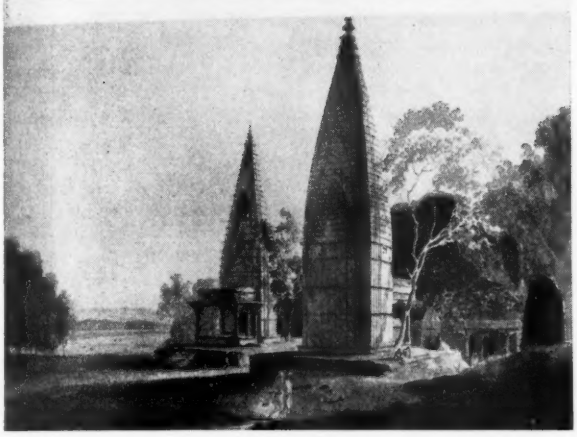


Fig. 3.—Gateway leading to Tomb of Akbar at Sikandra near Agra, U.P., January 1789

Fig. 4.—Hindu temples at Agori on the River Son, U.P., *c.* 12 January 1790

Fig. 5.—A temple at Kuttalum, Tinnevelly District, July 1792

respect to his pre-eminent virtues in the year MDCCC'. Warren Hastings was, in fact, seen as an incarnation of the Hindu God, Vishnu, who was supposed to have appeared in the world in various material forms to save mankind and support religion and virtue. Daniell therefore decorated the pillars and pillasters with mythological figures and emblems, which not only included Ganesh, the God of Wisdom, but the various incarnations of Vishnu. This garden toy (Fig. 6), executed by Rossi, was the earliest building based on a knowledge of Indian architecture.

Thomas Daniell was also consulted about a second project – a house which his friend Sir Charles Cockerell wished to build for himself at Sezincote in the Cotswolds. Cockerell had served with the East India Company from 1776 to 1800 and there is no doubt that Daniell must have met him in Calcutta where he served as Postmaster General from 1788 to 1794. Cockerell wanted his house to be built in the Indian style and he gave the work to his brother, the architect Samuel Pepys Cockerell, who was himself Surveyor to the East India House from 1805–7. The garden layout was entrusted to Humphry Repton and it is clear that the two Cockerells, Repton and Daniell frequently met to discuss the scheme. Daniell's drawings were examined and eventually Cockerell produced a design based on 17th-century Mughal architecture. Daniell himself agreed to design the stables, farm and garden buildings, garden-temple, grottoes, fountains, bridge and pool. By 1805, work on the house was proceeding, but plans for the garden continued until 1811. Although the house was Muslim in style, Daniell's designs show a strong Hindu influence (Figs. 7, 8), though his design for a garden building is Muslim.

But Daniell's influence did not stop here. The Prince Regent had visited Sezincote and had been greatly impressed. Moreover, Samuel Pepys Cockerell had an assistant, William Porden, who in 1803 became architect to the Prince Regent at Brighton and between 1803 and 1808 built the Royal Stables and Riding House for him. Porden was already interested in Indian architecture for as early as 1797 he had made a design for a 'place of Public Entertainment in the style of the Mahometan architecture of Hindostan'. There is little doubt that the Sezincote discussions had further stimu-

lated his interest in Indian architecture and his Dome owes much to the Daniells and their drawings.

At the same time Humphry Repton was asked by the Prince Regent to submit designs for the remodelling of the house and garden at Brighton in an Indian style which would combine with the Dome. In 1808 he published his designs and it is clear from the Preface to this book that Daniell's drawings had also had a great influence on him. 'It happened', he writes, 'that a little before my first visit to Brighton, I had been consulted by the proprietor of Sesincot, in Gloucestershire, where he wished to introduce the Gardening and Architecture which he had seen in India. I confess the subject was then entirely new to me; but from his long residence in the interior of that country, and from the good taste and accuracy with which he had observed and pointed out to me the various forms of ancient Hindu Architecture, a new field opened itself; and as I became more acquainted with them, through the accurate Sketches and Drawings made on the spot by my ingenious friend Mr T. Daniell, I was pleased at having discovered new sources of beauty and variety, which might gratify that thirst for novelty, so dangerous to good taste in any system long established; because it is much safer to depart entirely from any given style, than to admit changes and modifications in its proportions, that tend to destroy its character.'

Repton seems to have had a somewhat confused view of Indian architecture for he tries to divide it into five Orders and remarks, 'Under the name of Indian Architecture may be included Hindustan, Gentoo, Chinese, or Turkish; which latter is a mixture of the other three'. Nevertheless he talks of mosques, mausoleums, serais, hill-forts, 'excavations of the East' and refers to 'Salsetta, Elora and Elephantis'. Through Daniell's 'liberal communications' and through the accuracy of the drawings, Repton says that 'the Architects who have access to them can be at no loss for the minutiae'. 'We were', he quotes, 'on the eve of some great change in Landscape Gardening and Architecture, in consequence of our having lately become better acquainted with Scenery and Buildings in the interior provinces of India.'

For financial reasons Repton's designs for the Royal Pavilion at Brighton were never carried out and remain confined to his delightful book. Eventually in 1813 John Nash was asked to make fresh designs in the Indian style. He too had been a friend of Samuel Pepys Cockerell and doubtless shared the interests and enthusiasms of the Sezincote 'set'. His designs form an interesting contrast to Repton's. The latter often incorporated careful and accurate details of Indian architecture which were based on Daniell's detailed drawings. Nash's designs, on the other hand, are a free paraphrase of the Indian style, using the cornice of battlements, the fretwork screens and shadowy eaves with a grand and romantic effect, imposing his own spirit on the whole design. When Joseph Farrington later drew attention to the influence of the Daniells and wrote that the Pavilion was inspired by 'some of the Palaces represented in Daniell's *Oriental Scenery*', William Daniell indignantly replied, 'If the architect, acting upon an unrestrained permission to build according to his own judgment, aimed at an imitation of oriental architecture, it is to be lamented that he trusted so implicitly to conjecture, for there is hardly one feature, great or small, which at all accords with the purity, grandeur, and magnificence, that characterises the genuine Oriental style'.

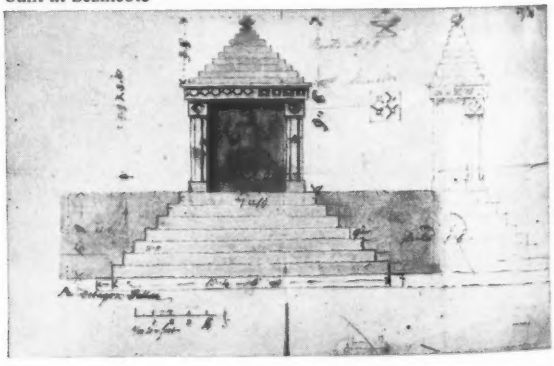
The structure of the Pavilion was finished in 1818 and the inside furnishings by Frederick Crace completed by 1822. Although Crace's designs were in a Chinese style with a new romantic strength and grandeur, it seems that he too must have been interested in Indian architecture, a friend of the Daniells and a collector of their Indian sketches. It was from the firm of Crace and Sons that the RIBA acquired its collection of Daniell drawings in the present century.

There seems little doubt, therefore, that perhaps the most important single influence in the popularising of Indian architecture in England, was the visit to India of Thomas and William Daniell and the engravings published from their sketches after their return. It was these drawings which above all provided the knowledge of style and detail which was necessary for the vigorous architectural developments between 1800 and 1830.

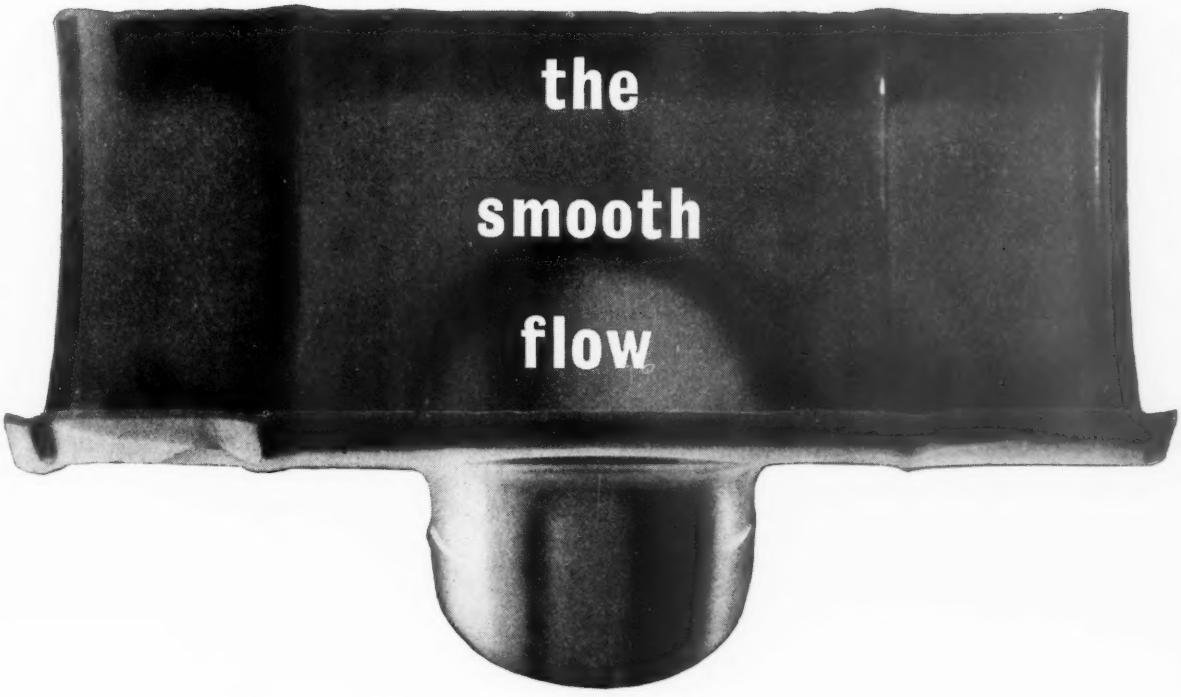
Fig. 6.—Sir John Osborne's garden-temple at Melchet Park

Fig. 7.—Thomas Daniell's drawing for the bridge as built at Sezincote

Fig. 8.—Thomas Daniell's sketch for the Temple of Surya as built at Sezincote



# A great advance–

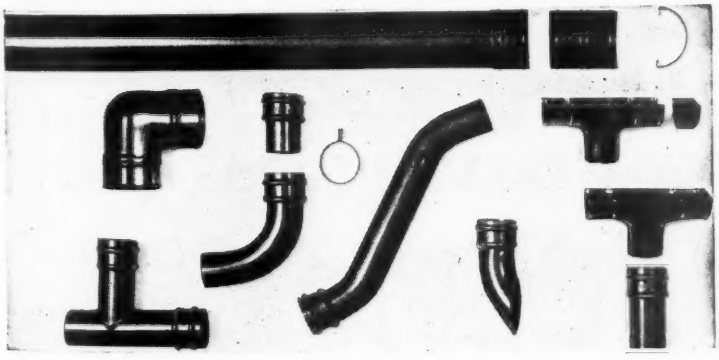



# of

# *MARLEY* vinyl RAINWATER GOODS

Resistant to acids and mechanical damage, non-ageing Marley Vinyl Rainwater Goods are not affected by the atmosphere of coastal or heavy industrial areas. They will not abrade, or corrode, to cause clutter and stoppage. There are not, nor ever will be any sharp edges or uneven joints to catch at leaves or grit. There are no faults to start blockage. Everything that collects in the smooth vinyl gutters flows freely into and through the down pipe.

Light in weight vinyl gutters and down pipes are easily handled and speedily installed. Now ready in grey or black, with more colours to come, they need absolutely no painting or maintenance at any time.



Marley Vinyl Rainwater Goods are readily obtainable throughout the U.K. 4, 4½ and 5 inch gutters in 6 foot lengths, and 2½ and 3 inch down pipes in 6, 8, and 10 foot lengths are available.

MARLEY SEVENOAKS, KENT · Sevenoaks 55255
London Showrooms 251 Tottenham Court Road W1

CRAWLEY NEW TOWN. Architect: H. S. Howgrave-Graham, A.R.I.B.A., A.M.T.P.I., *Chief Architect to The Crawley Development Corporation.*

100,204, 100,205, 100,206 – COO,
what A lot of windows –
all by Williams & Williams

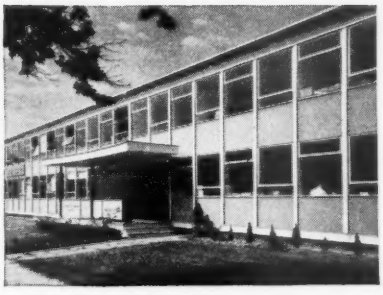
**The final neighbourhood unit** Gossops Green—where wide use has been made of Williams & Williams projected windows — is the 9th and last of the neighbourhood units. It is nearly finished and is already partly occupied.

CRAWLEY NEW TOWN contains an established Town Centre, a flourishing Industrial Area, 9 neighbouring units, 53,000 prosperous inhabitants and well over 100,000 Williams & Williams windows. Steel windows and curtain walling on the Post Office, purpose made steel windows in the Town Centre and steel windows to B.S.S. made to a special size to meet the architects' requirements for the houses.

**The birth of the Z range** The 2′ module standard window was developed for the architects of the new towns. These Williams & Williams Z range windows at Northgate went up in 1950 — they were among the first in the country.

**Tailor made standards** Crawley New Town also saw the development of the now established 'CO' standard window — specially made to an intermediate height of 3′ 6″. These particular ones at Southgate were specially made by Williams & Williams for Crawley Development Corporation.

**Standard factories too** To bring in the small manufacturer — and so balance the economy of the area — small factories like this one were built to a standard design. Here Williams & Williams purpose made steel windows and Aluminex Patent Glazing have been used for the sidewalls and Williams & Williams roof lights supply daylight overhead.



**Curtain Walling on the Post Office** Williams & Williams curtain walling with yellow in-fill panels give a light, bright look to the new Post Office, situated just outside the Town Centre.

**The Williams & Williams phone boxes.** The famous phone boxes in the Town Centre were specially made by Williams & Williams to the design agreed between the architects and the G.P.O.

**A new way with dustbins** Standard equipment throughout Crawley are these dustbin units. The louvred steel front opens on to a steel box which has a hinged lid and contains the dustbin. Rubbish is disposed of from inside the kitchen and collected from outside the house. Specially designed and made for the Crawley Development Corporation by Williams & Williams.

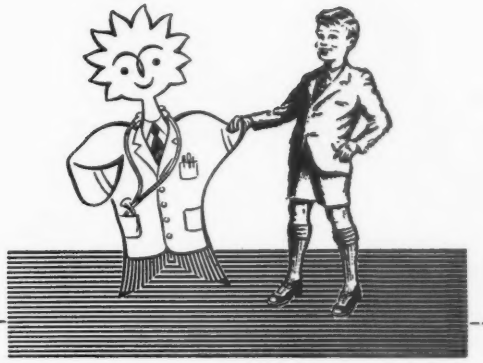
*forward looking building products* **WILLIAMS & WILLIAMS**

Williams & Williams make steel windows of every description, ALOMEGA and other aluminium windows, ROFTEN movable steel partitioning, ALUMINEX patent glazing, WALLSPAN curtain walling and many other products, all of which can be seen at our permanent exhibition at 36, High Holborn, London, W.C.1.

WILLIAMS & WILLIAMS, RELIANCE WORKS, CHESTER · WILLIAMS HOUSE, 37-39 HIGH HOLBORN, LONDON, W.C.1

it's his
future...
...backed by MRH

ISSUED BY THE GAS COUNCIL



Essential to all concerned with the choosing and usage of gas appliances, and kitchen planning for commercial catering . . . The Gas Council's CATERING HAND-BOOK. Price 4/- from your Area Gas Board.

# MRHERM who Burns to Serve health always . . .

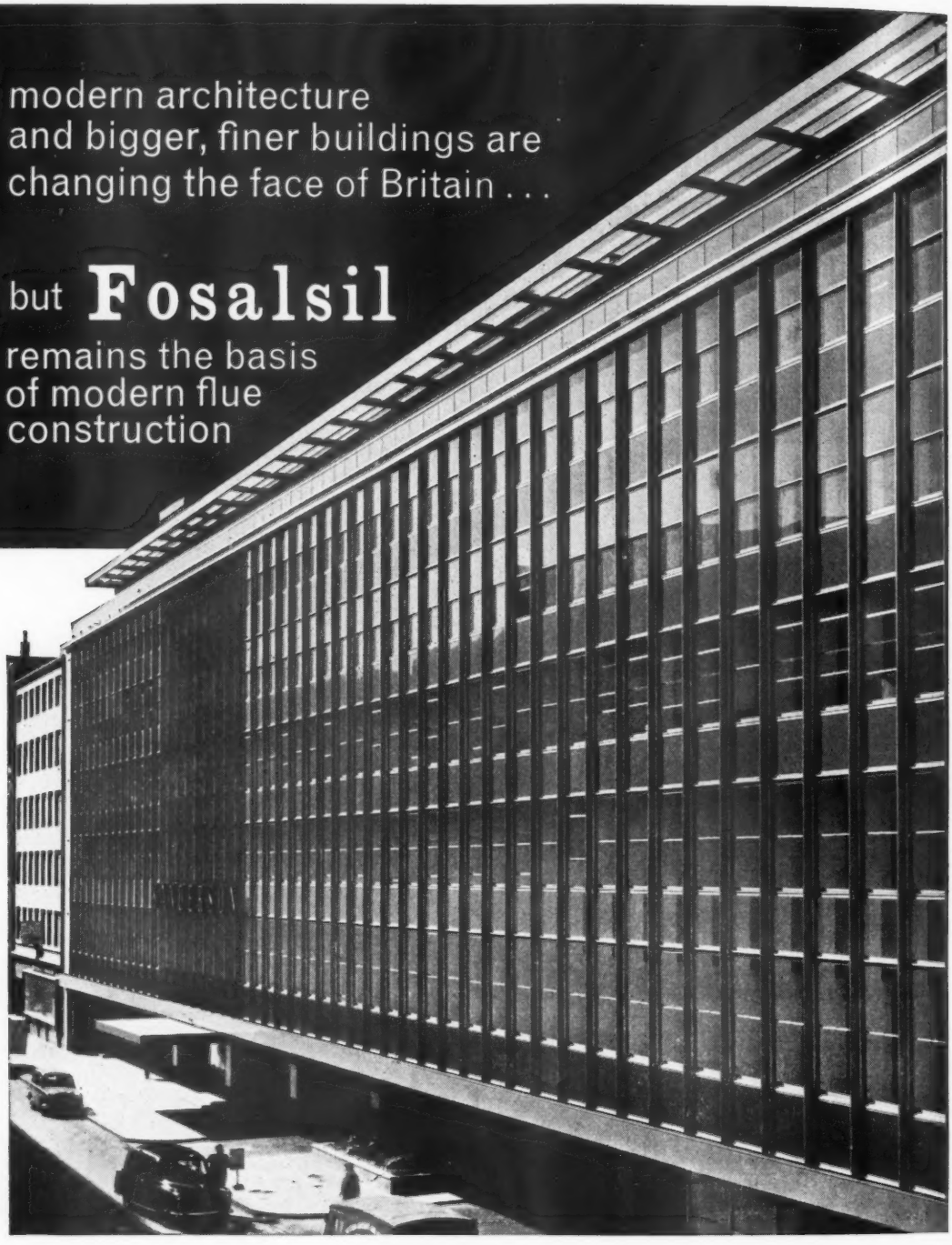
. . . in all ways. Today, the target is clean air, hot water in every home, hygienic kitchen surfaces—what of tomorrow? He will grow up with Mr. Therm, for each advance made by Architects and Builders will be helped by the unceasing research of the Gas Industry into even better and more economical means of providing warmth and comfort. Through the twelve Area Gas Boards, the Gas Industry offers an unrivalled free advisory service on fuel to all Architects and Builders.

**Write or 'phone your problem to your Gas Board NOW**

D21/1B

modern architecture
and bigger, finer buildings are
changing the face of Britain . . .

but **Fosalsil**
remains the basis
of modern flue
construction



**New premises for Arthur Sanderson & Sons, Ltd., Berners Street, London, W.1.**

Architects: Messrs. Slater & Uren.
Contractors: Messrs. Holloway Bros., London, Ltd.

FOSALSIL flue bricks
were used throughout

**Fosalsil**

Made only by MOLER PRODUCTS LIMITED
Hythe Works, Colchester. Phone: 3191 (3 lines)

# *Fire Resistance*
## -Gypsum Plasterboard

### *Taking it all in*

One swallow doesn't make a fire-eater! – it's experience that counts. And even for those with the necessary know-how, playing with fire can be a dangerous pastime – that is why wisdom suggests Gypsum Plasterboard for all internal linings. Whether in plain or insulating form, plasterboard's inherent fire-resistant properties, associated with its incombustible gypsum core, often earns substantial economy in fire insurance premiums for the property owner. Furthermore, the surfaces of both types of plasterboard attain the Class 1 grading (B.S. 476) without requiring additional flame retardant treatment!

### *Write for*

free brochure giving facts and diagrams concerning fire resistance and thermal insulation

**THE GYPSUM PLASTERBOARD DEVELOPMENT ASSOCIATION,**
G.P.O. BOX 321, LONDON NW1

**Of all the approved insulating materials INSULATING PLASTERBOARD is the cheapest by far — giving the essential Class 1 fire protection and thermal insulation. Its cost has in fact reverted to 1951 level.**

FRI

# ELKINGTON GATIC

## MULTIPLE COVERS and FRAMES

## *16'x16' CLEAR OPENING

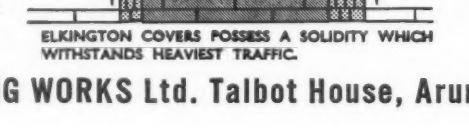
Illustrated is an Elkington Gatic Multiple cover and frame with a 16' × 16' clear opening being installed at the Imperial College of Science extensions. Some of the World's greatest projects make use of ELKINGTON GATIC COVERS AND FRAMES of which the following are a few:—

The New Hong Kong Airport. Kuwait Palace. Bermuda Telephone Company. Rangoon Port Development. The New B.B.C. Television Centre (White City). British Transport Commission (Alexandra Palace). Imperial College of Science and Technology. Power stations at Northfleet, Castle Donington, Battersea, Agecroft, High Mainham, Rugeley, Belvedere Generating Station. University of Sheffield. Theepval Barracks, Oxford West Library, etc. etc.

## *NON ROCKING
## AIR-TIGHT AND WATER-TIGHT

## WHY ELKINGTON GATIC COVERS & FRAMES
### ARE NON-ROCKING · AIR-TIGHT & WATER-TIGHT

AN ELKINGTON COVER (OR GRATING) FITS NOT ONLY UPON BUT ALSO WITHIN THE CORRESPONDING INTERNAL SURFACES OF ITS FRAME



ELKINGTON COVERS POSSESS A SOLIDITY WHICH WITHSTANDS HEAVIEST TRAFFIC.

SUBSTANTIAL METAL TO METAL CONTACT THROUGHOUT

INTERPOSITION OF GREASE FILM RENDERS THE CONTACT BOTH WATER- AND GAS-TIGHT

**THE DOVER ENGINEERING WORKS Ltd. Talbot House, Arundel St. W.C.2. Cov. 0834**

**(How to win friends and influence customers with the nearest thing to daylight—MAZDA °KOLOR-RITE FLUORESCENT LAMPS)**

Daylight not only helps skilled workers to do "close work", it also helps to sell what they're making. It sells anything from food to fabrics, from ice-cream to ideas. Only with daylight can you be absolutely sure that what you're displaying has a fighting chance of looking "the real thing".

But what happens at night, or indoors, when there's a shortage of daylight? Easy. Now you simply buy it—in the form of the new Mazda °Kolor-rite fluorescent lamps. These lamps really are the nearest thing to daylight. And because they have the effect of bringing outdoors indoors, they enable colours to look fresh and natural. What more could you want to make any presentation vividly attractive? Be sure you're getting Mazda °Kolor-rite fluorescent lamps. *Made in 5 ft. tubes with B.C. and Bi-pin caps. Also in 4 ft. tubes with Bi-pin caps.*

°Kolor-rite

AEI
Lamp and Lighting Co Ltd

Melton Road, Leicester

HUYGHENAERS
see G.E.C.
about electric
Waterheating

## H. J. Heinz Company Limited

## choose Ceramic Tiles

*Architect: E. D. Jefferiss Mathews, O.B.E., F.R.I.B.A., A.R.I.C.S of J. Douglass Mathews and Partners, London.*

*General Contractors: A. Monk and Co. Ltd., Warrington and London.*

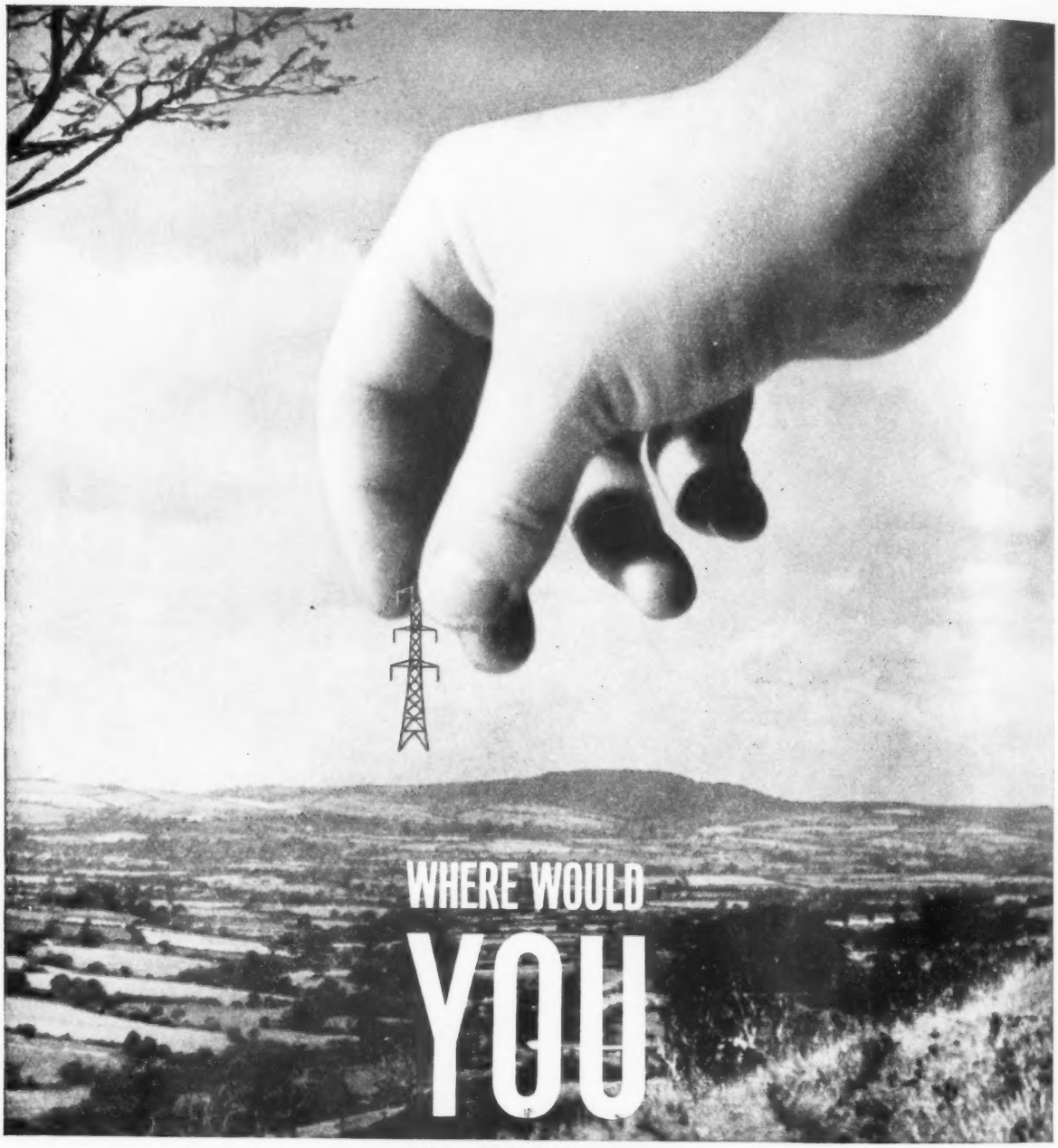
*Tile Fixers: W. B. Simpson and Co. Ltd., London, S.W.8.*

. . . for complete hygiene in the Surgery, and throughout their vast new Factory at Kitt Green. ONLY Ceramic Tiles meet so completely, the stringent standards required for food processing.

Visit the Council's display of ceramic tiles, at the Building Centre, Store St., Tottenham Court Rd., W.C.1.

**British Ceramic TILES**

*British Ceramic Tile Council, Federation House, Stoke-on-Trent*




# RUN THE PYLONS?

*They still live by lamp-light up in the hills.* Soon, a new transmission line will thread its way along the valley, bringing the people up on the hill the electricity they've been wanting.

Pylons down here will mean a better life up there. But how will the people of the valley feel about the pylons? And the people who visit the valley?

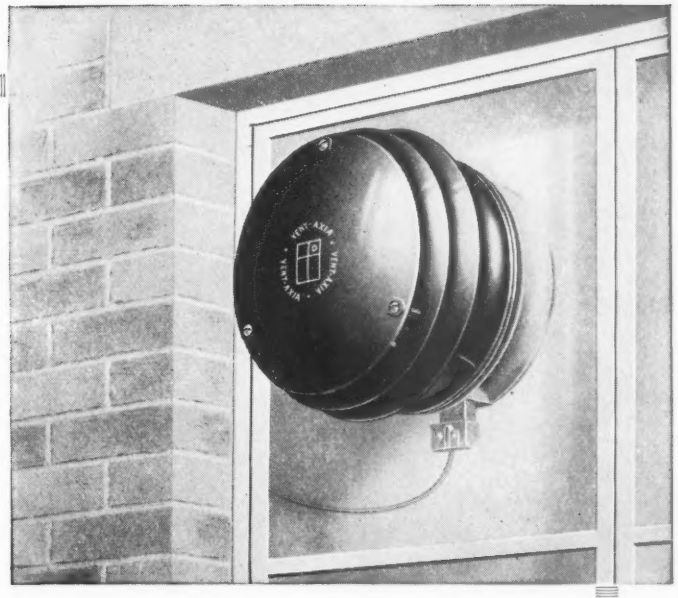
The Central Electricity Generating Board are just as concerned about this as they are about bringing in the power. For the nation has charged the Board with a double duty. Not only to maintain an efficient, economical electricity supply, but also to preserve the amenities of the country as they go.

Often, these duties conflict. Again and again problems arise which seem impossible to solve. But always, they seek to achieve a balance. A balance between the need to answer demands for more power and the need to preserve the beauty, the intangible values, of a landscape, a village, the still unspoilt approaches to a town.

THE CENTRAL ELECTRICITY GENERATING BOARD

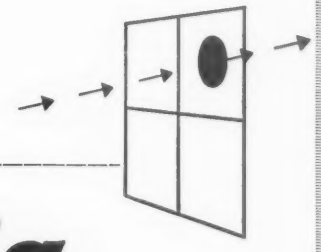
CEGB

# For unit ventilation **specify Vent-Axia**



*Simple to instal in window, wall or roof*

- **Intake, Extract and REVERSIBLE units.**
- **Made in four sizes, impellers 6″, 7½″, 9″, 12″.**
- **Volume of air moved - from 125 - 1,000 C.F.M.**
- **Speed control, Iris Shutter, Dark Room and other attachments for all models.**
- **Quiet, Efficient and Economical.**
- **Suitable for use in any climate.**



FOR BETTER AIR CONDITIONS

**Vent-Axia**

*Simplest form of controlled ventilation*

**60 ROCHESTER ROW • LONDON • S.W.1**

*Telephone: VICtoria 2244*

BRANCHES AT: GLASGOW · MANCHESTER · BIRMINGHAM · LEEDS · NEWCASTLE-UPON-TYNE · BRISTOL

# HOPE'S

*A Laing Development for St. Martin's Le Grand Property Co. Ltd.*
*Architects: Stone, Toms & Partners*

# HEATING

## *& Hot Water Services*

*will be installed by*

**HOPE'S HEATING & ENGINEERING LTD.**

*Smethwick, Birmingham & 16 Berners St., London, W.1*

*Branch Offices at Leeds, Cardiff & Hull*

*NEW B.B.C. TELEVISION CENTRE*
*LONDON W.12*

ARCHITECT:
Graham Dawbarn Esq., C.B.E., (Norman & Dawbarn)
in association with M. T. Tudsbery Esq., C.B.E.,
Consulting Engineer to the B.B.C.
CONTRACTORS:
Messrs. Higgs & Hill Ltd.

# 2500 ROYAL FLUSH and SASCO DOORS by SOUTHERNS LIMITED

This magnificent building is another contract supplied by Southerns Limited, who this year celebrate their Centenary.
Each 'Royal Flush' and 'Sasco' Door is a masterpiece of craftsmanship.
The Solid and Semi-Solid Cores were built on our specification to the design of the Architect. These incorporate a wide variety of finishes of selected veneers, studded Aluminium and Darvic faces.

1860 1960 SOUTHERNS CENTENARY YEAR STRONGER EVERY YEAR

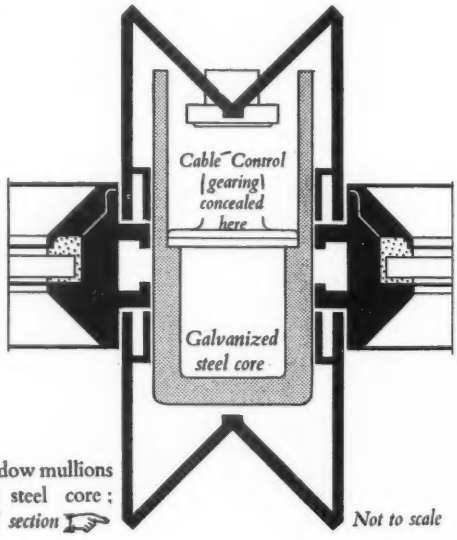
*HEAD OFFICE:*
**BOLD SAW MILLS • WIDNES • LANCS**
*TELEPHONE: WIDNES 2641 (7 LINES)*

*Branches at:* LONDON · MANCHESTER · BIRMINGHAM · DUDLEY · GLASGOW · HANLEY · BRISTOL · KETTERING · BELFAST

# HOPE'S aluminium windows

UNITED STATES EMBASSY, GROSVENOR SQUARE, LONDON
*Architects: Eero Saarinen & Associates, U.S.A. Associate Architects: F. R. S. Yorke, E. Rosenberg & C. S. Mardall, FF.R.I.B.A.*

Ground floor windows are gold anodized aluminium with horizontally sliding vents at head operated by our Cable Control gearing concealed within the window mullions.
Other floors have hot-dip galvanized steel windows *(special fittings were designed, and in many cases, concealed, inside the window frames)* with featured mullions in gold anodized aluminium. Metal window boards, heating grilles, and trim accommodate curtains and avoid costly plastering.




GOLD ANODIZED window mullions with hot-dip galvanized steel core; *typical section* ☞ *Not to scale*

**HOPE'S WINDOWS** *The Name Guarantees*

HENRY HOPE & SONS LTD
SMETHWICK, BIRMINGHAM
LONDON: 17 BERNERS ST., W.1

## SALFORD MUNICIPAL DEVELOPMENT

# 1,400,000 'Phorpres' common and facing bricks

Built for Salford Corporation by Direct Works Department this recently completed scheme comprises 711 dwellings in nine 10-storey blocks, three 11-storey blocks, and a single smaller block of six shops with maisonettes above. The scheme was started eighteen months ago.

*City Engineer*—G. A. McWilliam, B.SC., A.M.I.C.E., A.R.I.C.S., M.I. HUN. E., Town Hall, Bexley Square, Salford 3, Lancs.
*Architects*—Cruickshank & Seward, Chartered Architects, 196 Deansgate, Manchester 3.
*Contractors*—City of Salford Direct Works Dept. General Manager: Stephen W. Johnson, F. BLDG. S. I., M. I. HUN. B. M., Unwin Street, Cross Lane, Salford, Lancs.

MULTI-STOREY FLATS, LOWER KERSAL, SALFORD

WINGS DAY SEPT. 17th GIVE FOR THOSE WHO GAVE

**LONDON BRICK COMPANY LIMITED**—in the service of the building industry

PHORPRES

*Head Office:* Africa House, Kingsway, London, W.C.2. Telephone: HOLborn 8282.
*Midland District Office:* Prudential Buildings, St. Philip's Place, Birmingham 3. Telephone: Central 4141
*South-Western District Office:* 11 Orchard Street, Bristol 1. Telephone: Bristol 23004/5.
*Northern District Office:* St. Paul's House, 20-22 St. Paul's Street, Leeds. Telephone: Leeds 20771.

BY APPOINTMENT TO HER MAJESTY QUEEN ELIZABETH II BRICK MAKERS

WATES build

# *for Vogue magazine*

. . . haute couture in stone and concrete

THAT noted orator, William Pitt the Younger, would have been at no loss for words in praise of Vogue House, which now confronts his statue in London's Hanover Square. Designed by architects Yates, Cook and Darbyshire, and built by Wates, the building provides nearly 70,000 square feet of floor area, including basement car park and seven floors of offices, showrooms, and studios. Vogue shares these splendid premises with such good company as A.B.C. Television, the Midland Bank, Kelsey Industries, and E. Gomme & Co. Ltd. Like the many other discerning firms for whom Wates build, Vogue is, as always, right in fashion !

WATES build

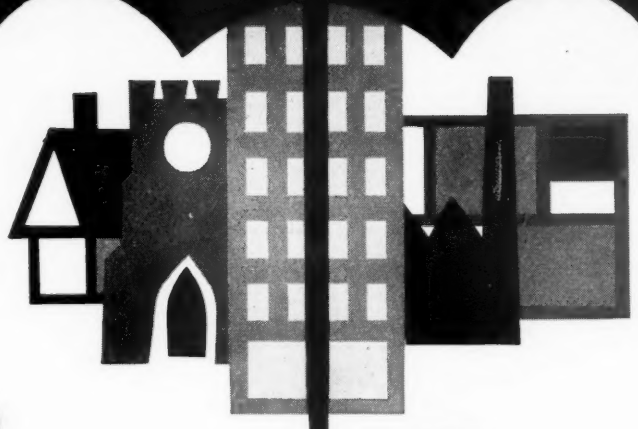
**WATES LIMITED, 1260 London Road, Norbury, London, S.W.16 POLlards 5000**

Buildings treated with Dri-Sil masonry treatment remain sound and dry inside and out. The treatment gives protection against weathering, prevents cracking and crazing of cement rendering, eliminates unsightly efflorescence, and preserves buildings from the effects of water-borne dirt and acidic substances. Heat insulating properties in damp weather are also improved. Dri-Sil silicone treatments are colourless, and easily applied by brush or spray. Although they render the pore-structure highly water-repellent, they do not prevent 'breathing' of the mortar, stone and concrete, and oil and emulsion paints can be applied to treated surfaces. Some forty-five firms now make water-repellent silicone masonry treatments based on Dri-Sil 29 and Dri-Sil 37. Write for names and further technical information.

# DRI-SIL

## SILICONE MASONRY TREATMENTS

### give longer-life protection



* The Building Research Station carried out an investigation—lasting five years—on a water-repellent treatment based on Dri-Sil 29. A copy of the report will gladly be sent on request.

MS

**MIDLAND SILICONES LTD**

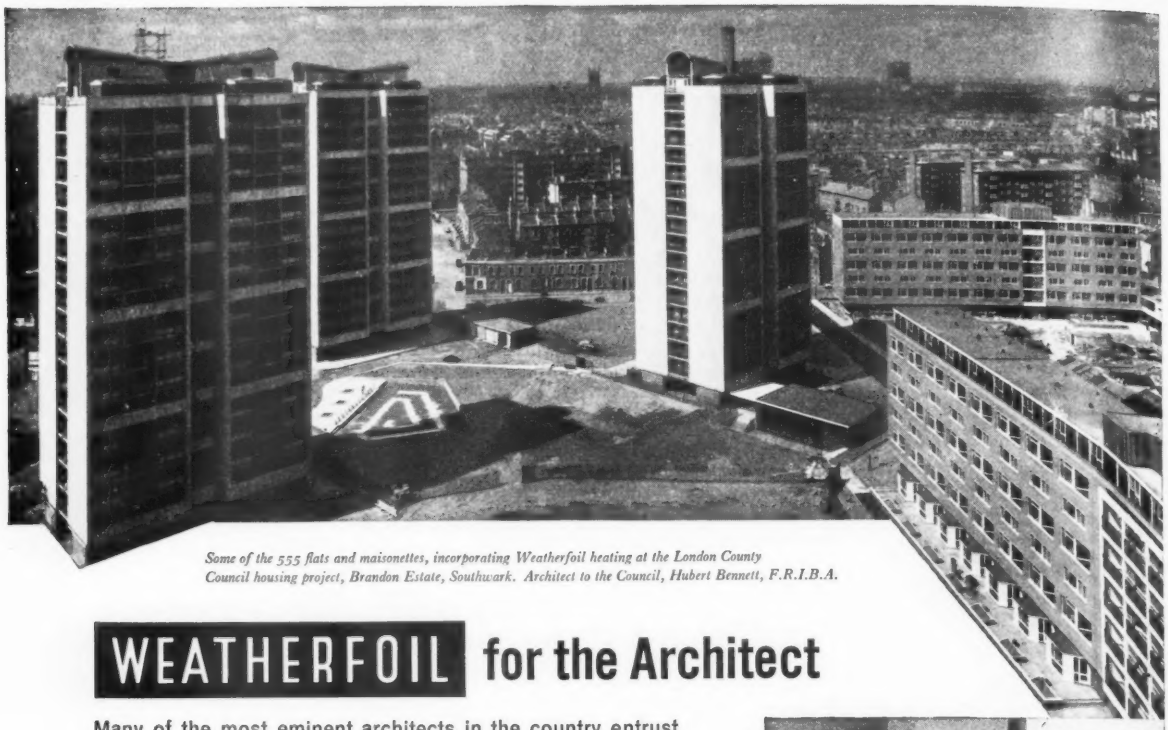
*(Associated with Albright & Wilson Ltd and Dow Corning Corporation)*

***first** in British Silicones*

68 KNIGHTSBRIDGE · LONDON · SWI · TEL. KNIGHTSBRIDGE 7801

*Area Sales Offices: Birmingham · Glasgow · Leeds · London · Manchester*
*Agents in many countries*

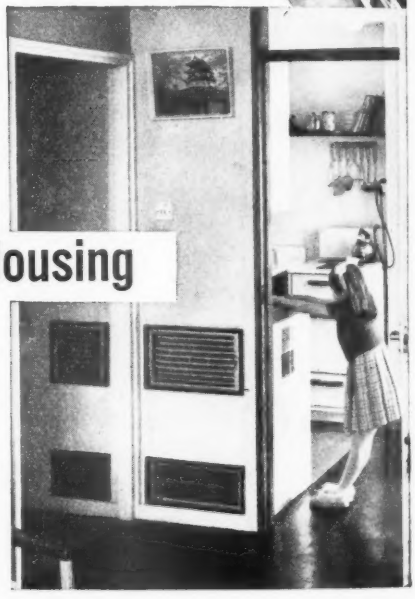
MSE 2



*Some of the 555 flats and maisonettes, incorporating Weatherfoil heating at the London County Council housing project, Brandon Estate, Southwark. Architect to the Council, Hubert Bennett, F.R.I.B.A.*

## WEATHERFOIL for the Architect

Many of the most eminent architects in the country entrust their heating problems to Weatherfoil. They know they can rely on the Weatherfoil design team for the closest co-operation at every stage of the project. Result — a heating system perfectly suited to its purpose at the lowest possible cost.



## Metered Heat for Multiple Housing

Tenant pays a standing charge included in the rent, which covers capital costs and maintenance, and a measure of background heat. Charge for full heating is registered by a meter, and may be as low as 1d per hour. Heater thermostat is set by tenant and can be switched off when not required.

- *Low cost installation*
- *Economical running*
- *Temperature and on/off control in each dwelling*
- *Tenant pays by meter*

**WEATHERFOIL Metered Heat**

*Write for details to:—*

WEATHERFOIL LTD. *Head Office:* 185 BATH ROAD, SLOUGH · BUCKINGHAMSHIRE · TELEPHONE: SLOUGH 25561

*BROADGATE HOUSE · COVENTRY · WARWICKSHIRE · TELEPHONE: COVENTRY 40116*

new buildings – new needs and new ranges of Crittall aluminium windows, designed to match the most forward-looking architectural concepts and to meet the toughest practical demands.

Thorough research, advanced design and manufacturing techniques, a new factory specialising in aluminium windows and equipped with the most up-to-date anodizing plant—these, allied to Crittall's long experience, help to make tomorrow's buildings better to live in and work in, less costly to maintain.

THE SCOTTISH LIFE ASSURANCE CO. LTD., BIRMINGHAM: *An installation of Crittall aluminium Continental windows — completely weather-stripped and fully reversible for cleaning, with 'Solomatic' Venetian Blinds between double glazing. Architects: Surman, Kelly and Surman. Contractors: C. Bryant and Son Ltd.*

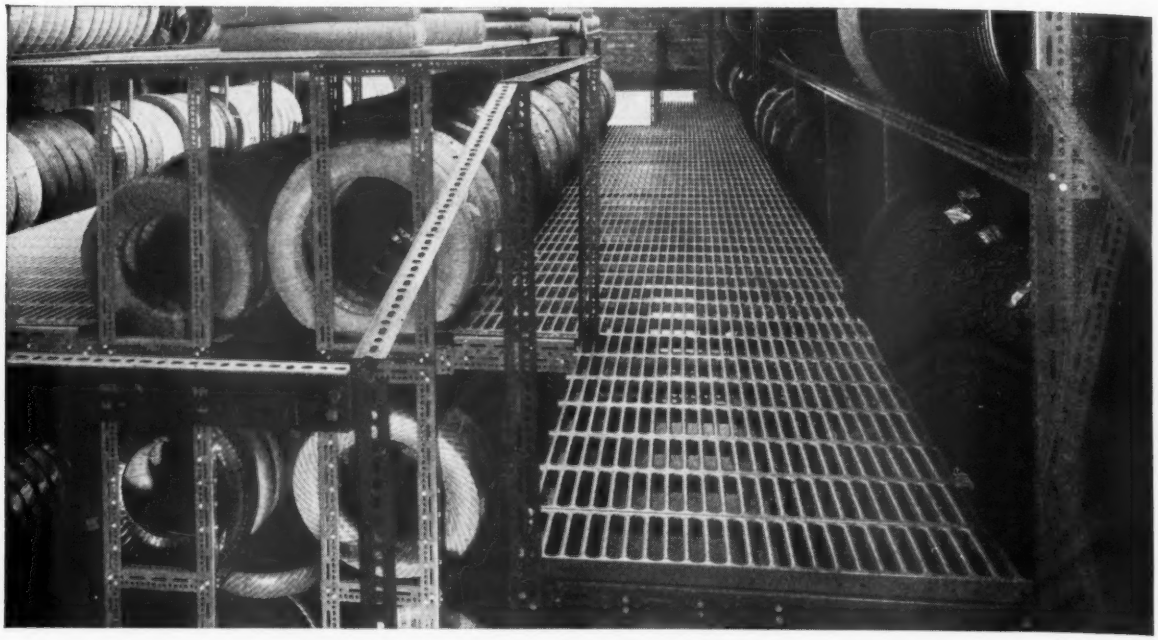
and WINDOWS by CRITTALL

Write for leaflet 201B

THE CRITTALL MANUFACTURING CO. LTD
BRAINTREE · ESSEX · *Branches and depots throughout the country*

1BW/128

**Old-type decking OUT . . . Dexion IN.** Stronger, safer, more durable catwalks when Stapletons of Watford, tyre dealers, replaced chipboard walkways with Dexion Open Steel Planks. Overhead light now penetrates flooring. Tyre stocks are stored on specially designed Dexion Slotted Angle racks.



**MULTI-DECK STORAGE IS BEST**
**—WITH 100% FUNCTIONAL CATWALKS OF**

# DEXION OPEN STEEL PLANKS

- QUICKLY AND ECONOMICALLY ASSEMBLED
- EXCELLENT LIGHT FILTRATION
- PERMANENT STRENGTH AND SAFETY
- DIRT-FREE AND SLIP-PROOF (NO MAINTENANCE NEEDED)

Here's the fast, economical and thoroughly practical way to build or improve your multi-deck storage facilities—catwalks of Dexion Open Steel Planks. No need for costly prefabrication; and the planks can be used with all kinds of steelwork, angle-iron framework, timber joists, or with Dexion Slotted Angle construction.

## DEXION

For full information, send off the coupon NOW or 'phone MAIda vale 6031

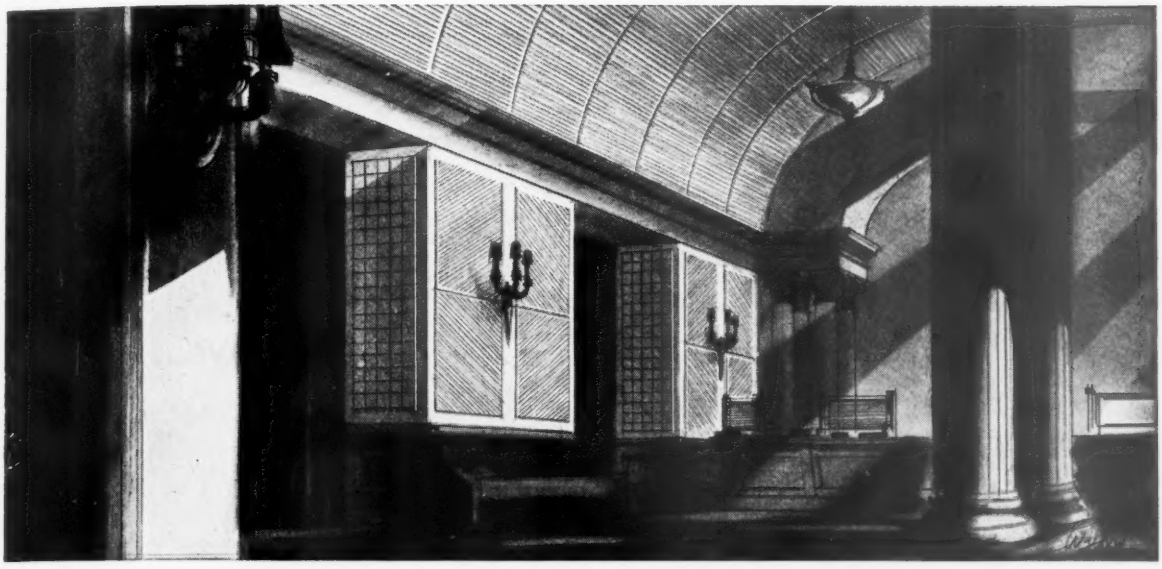
TO: DEXION LTD., MAYGROVE ROAD, LONDON N.W.6.
Please send me your folder on Open Steel Planks.

Name .....

Address .....

..... S.19

# Where silence is golden . . .



Passed is the day when only the scratch of pen or the tinkle of sovereigns disturbed the church-like quiet of our great banks. The pace of banking business has called for all the mechanical aids available to the modern office—together with their inevitable noise. So banks have been quick to appreciate the need for Hermeseal acoustic installations. These are designed for wall and ceiling treatment in keeping with existing decor—or as an integral part of new construction.

Write for further particulars.

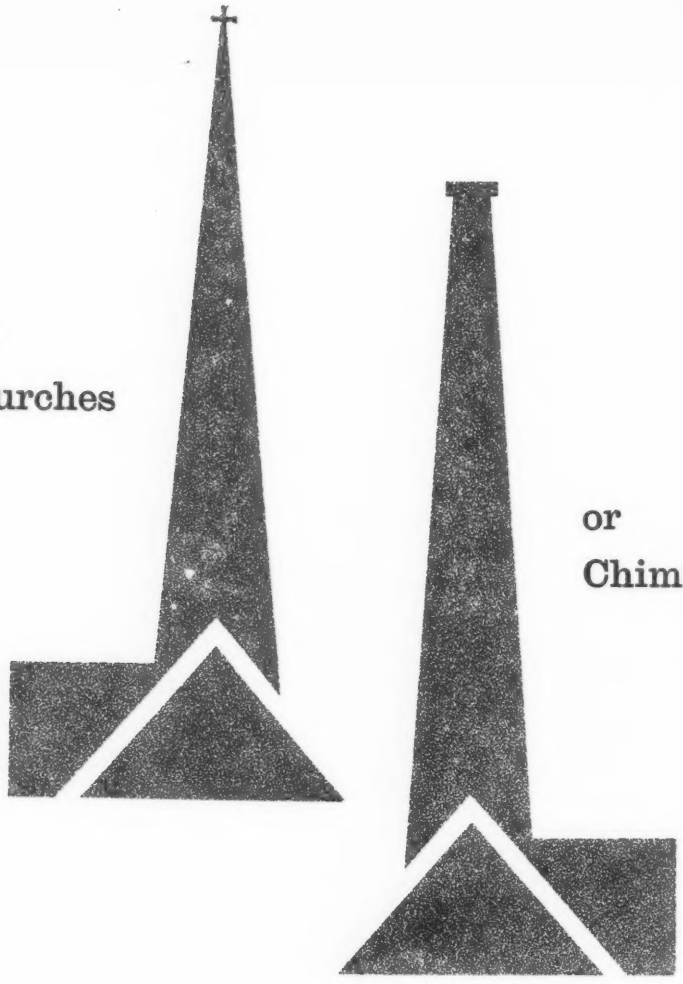
**HERMESEAL**

HERMESEAL ACOUSTICS LIMITED

Head Office: 4 Park Lane, London, W.1.

Telephone: Grosvenor 4324

for
Churches



or
Chimneys...

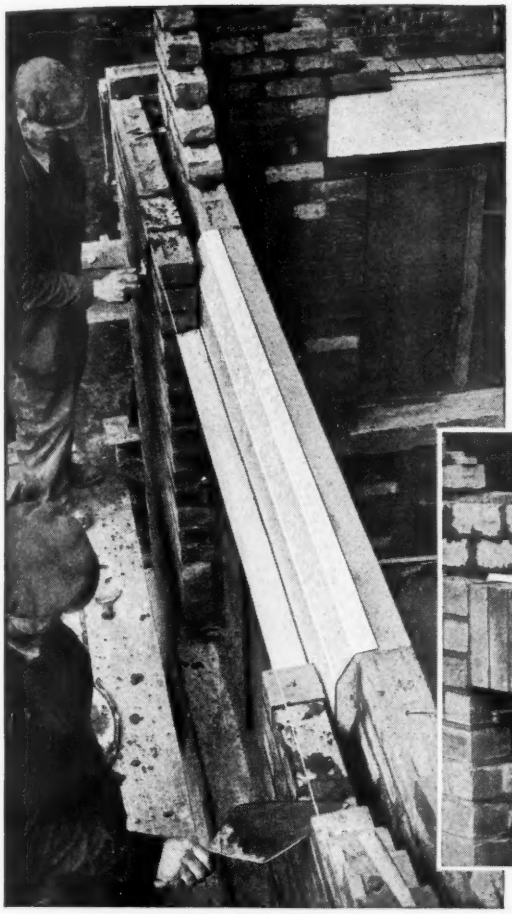
# PRESSURE PILING

## solves foundation problems

THE PRESSURE PILING CO. (PARENT) LTD
637 Old Kent Road London SE15
*Telephone: NEW CROSS 0347/8/9*

THE PRESSURE PILING CO. (NORTHERN) LTD
Charnley Fold Lane, Bamber Bridge, Nr. Preston
*Telephone: PRESTON 85723*

The original and largest Bored Piling specialists in the world

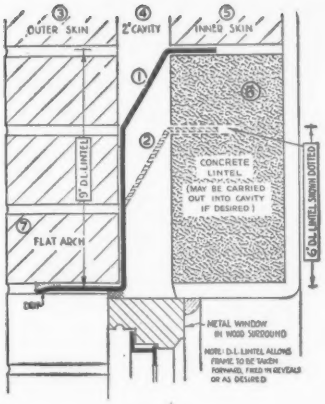


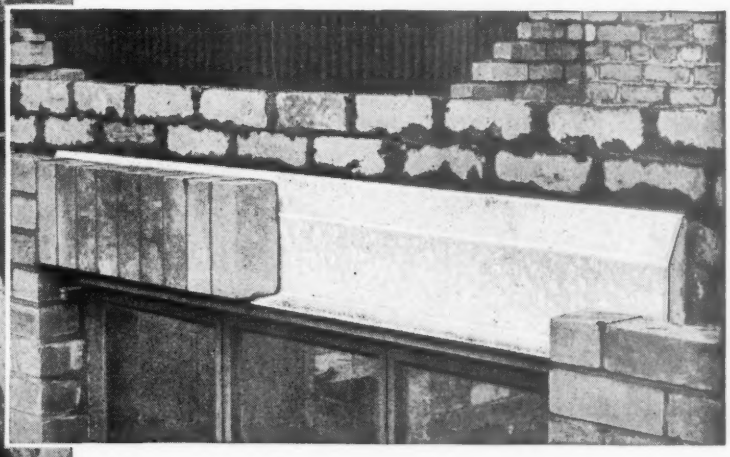
SECTION SHOWING TYPICAL DETAIL

(1) 9 in. Dorman Long Lintel
(2) 6 in. Dorman Long Lintel (shown dotted)
(3) Outer skin
(4) Cavity
(5) Inner skin
(6) Inside concrete lintel (carried out into cavity if so desired)
(7) Flat arch

The wide 'turn-in' of the Dorman Long Lintel allows the cavity to be varied from 2 in. to 2¾ in. in width.

Patent No. 694214


3 OUTER SKIN
4 CAVITY
5 INNER SKIN
1
6
2
9" D.L. LINTEL
CONCRETE LINTEL (MAY BE CARRIED OUT INTO CAVITY IF DESIRED)
6" D.L. LINTEL SHOWN DOTTED
7 FLAT ARCH
METAL WINDOW IN WOOD SURROUND
NOTE: D.L. LINTEL ALLOWS FRAME TO BE TAKEN FORWARD, FIXED IN REVEALS OR AS DESIRED



# THE DORMAN LONG LINTEL

## Combined Angle Arch Support & Dampcourse Tray

### IN HOT-DIP GALVANIZED STEEL, FOR USE AT THE HEADS OF OPENINGS IN EXTERNAL CAVITY WALLS

*Comes on site to required length ready to fix.*
*Large saving in site labour costs.*
*Cannot be damaged in cavity cleaning.*

THE DORMAN LONG LINTEL has only to be placed into position over the head of the opening, and without delay the work carries on.

*Prices and details from :*
DORMAN LONG *(Steel)* LTD., Sheet Dept., Middlesbrough or from district offices at London, Birmingham, Manchester, Newcastle, Belfast, Glasgow.

# DORMAN LONG

# KNOW HOW

The question of safety is involved in the construction of structural FLOORS AND ROOFS and it is wise to employ a specialist in this routine operation consulting him in the early stages of planning. The design, manufacture and erection of Precast Concrete Floors and Roofs is not a rule of thumb matter that can readily be done with the help of standard tables.

SIEGWART provide not only experienced designers but also a staff in the Works and on the Site who, from a long study and experience of the problems involved and the pitfalls to be avoided, can translate good design into sound construction.

## SIEGWART *PRECAST FLOORS AND ROOFS*

*Our Associate Company, S.P.C. Ltd. has been formed to give a complete service in concrete. It will be pleased to quote for the design and erection from foundation of all R.C. structures.*

SIEGWART FLOOR CO. LTD., Cable House, Rickmansworth, Herts. Telephone Rickmansworth 2388 — Berkeley House, Hagley Road, Birmingham 16. Telephone Edgbaston 2666 — Carlton House, Blythswood Square, Glasgow, C.2. Telephone City 5139

# GERRARDS
*of Swinton*

## EXPERIENCE COUNTS

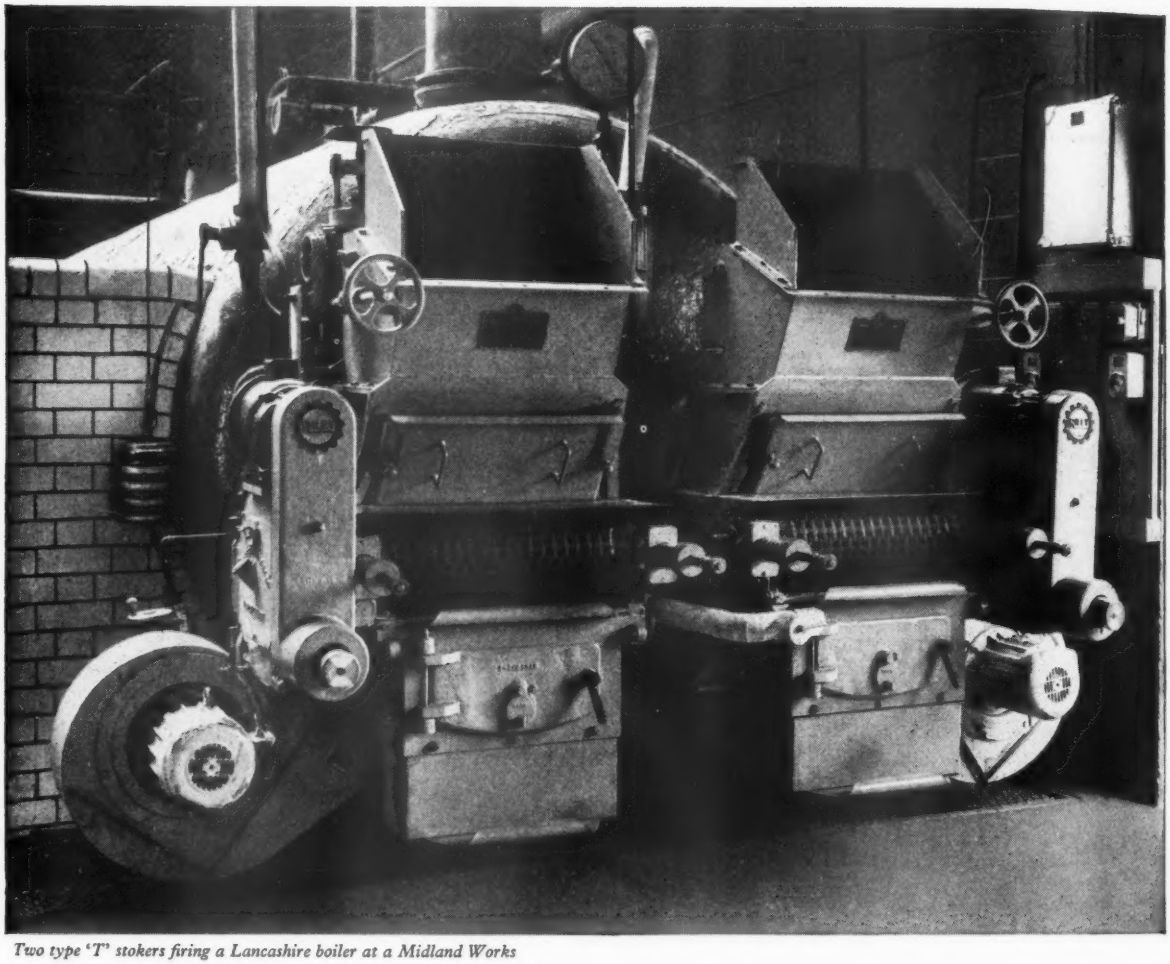
*Cardiff College of Technology and Commerce. Architects: Sir Percy Thomas & Son*

J. GERRARD & SONS LTD.
SWINTON, MANCHESTER
AND AT LONDON & IPSWICH

*Building & Civil Engineering Contractors*

din CR 77

# Burn low grade coals with high efficiency on RILEY TYPE 'T' CHAIN GRATE STOKERS



*Two type 'T' stokers firing a Lancashire boiler at a Midland Works*

The Riley Type 'T' stoker was developed specially for Horizontal Shell boilers to burn the cheaper industrial slack coals which are usually high in ash content and unsuitable for other types of stokers. Combustion is clean, efficient and smokeless and full boiler output can be maintained at lower costs.

FOR FURTHER INFORMATION, PLEASE WRITE FOR BOOKLET R.522

CLEAN AIR IS AUTOMATIC WITH
**RILEY STOKERS**

Efficient burning of small bituminous coals is a feature of all Riley Stokers. The range includes, in addition to the type 'T' stoker, underfeed designs for every type of boiler. All provide smokeless combustion and are exempt from the provisions of Section 11 of the Clean Air Act.

## RILEY (IC) PRODUCTS LIMITED

*One of the International Combustion Group of Companies*

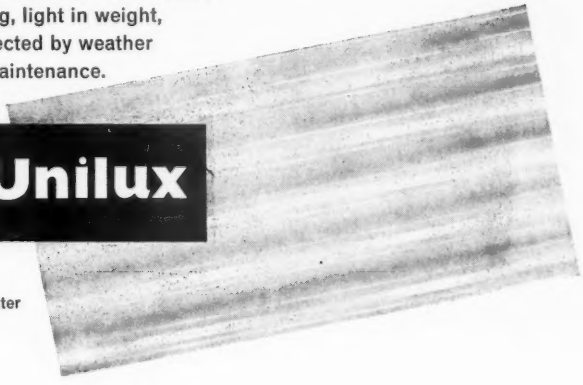
NINETEEN WOBURN PLACE · LONDON WC1 · TELEPHONE: TERMINUS 2622

*Full comprehensive after-sales service is available from service depots at*

BIRMINGHAM · BRISTOL · DERBY · GLASGOW · LEEDS · LONDON · MANCHESTER · MELTON MOWBRAY AND NEWCASTLE-ON-TYNE

TGA R78A

"Don't shut out the daylight", says the client. "It isn't natural". Your answer must be: **UNILUX** Translucent Sheeting which permits 85% light transmission – natural light. **UNILUX** is available in a variety of attractive colours, and can be supplied to match the profile of any standard roof sheeting. **UNILUX** is fire-retardant, durable, strong, light in weight, easy to work and easy to fix. It is unaffected by weather and climatic conditions and needs no maintenance.



## Daylight Saving-with Unilux

**UNILUX** is made by a member-company of the U.A.M. Group—a name synonymous with "better building". The **"U.A.M. GROUP INFORMATION BULLETIN"** is published every two months to keep you informed of the Group's activities. May we add your name to our Mailing List?

# Unilux the Best in Translucent Sheeting

U.A.M. PLASTICS LIMITED · TOLPITS · WATFORD · HERTFORDSHIRE Tel: WATFORD 34551

A Member of the U A M Group of Companies

*There's nothing as good as Vermiculite for*

**PLASTERS**

* **Light weight** — substantial reduction in dead load; lighter to mix, to carry, to apply.
* **Fire resistant** — high fire ratings with steelwork, timber, prestressed and reinforced concrete.
* **Firm adhesion** — outstanding on all normal backgrounds, including concrete.
* **Thermal insulation** — two to three times the insulation value of sanded plasters.
* **Cracking resistance** — maximum resistance due to the resilience of the aggregate.

***And it is much cheaper to batch and mix your own plasters on site***

***specify***

# VERMICULITE

FOR PLASTERS, ROOF SCREEDS, FLOOR SCREEDS AND LOOSE FILL

Send for full details—
The Association of Vermiculite Exfoliators, 59 Gresham Street, London, E.C.2. Telephone: METropolitan 9101

# SUPER SNOWCEM

WATERPROOF CEMENT PAINT

## makes a well-designed house even better

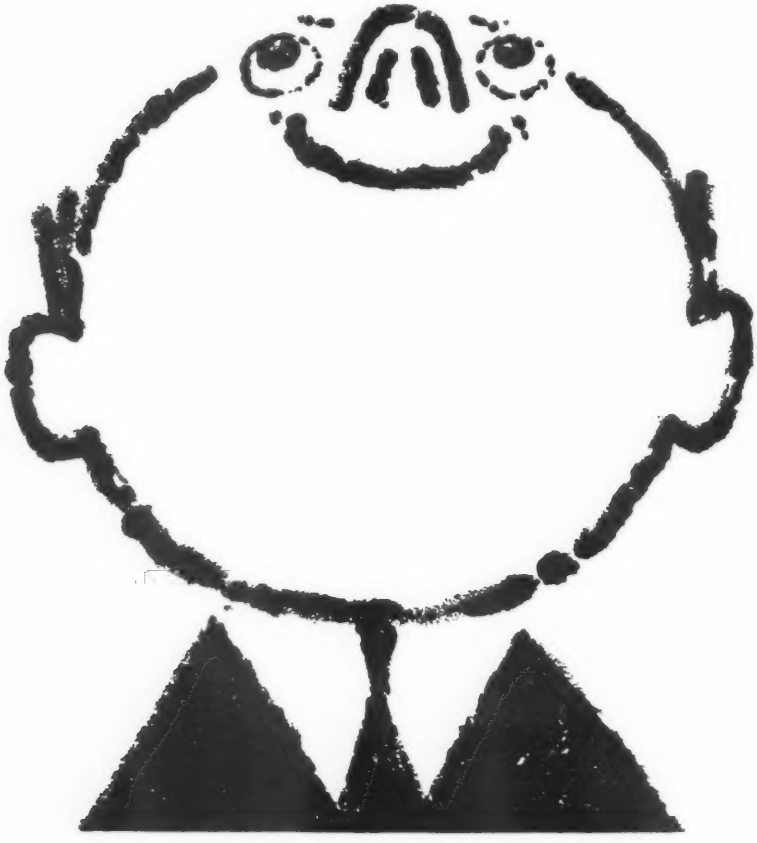
Super Snowcem—like many of the walls it decorates and protects—has a base of cement that sets rock hard. That's why architects specify Super Snowcem. They know that when it comes to the painting of outside walls, no paint in the world does the job so effectively, so economically as Super Snowcem.

T. 260B.

*Write for free booklet and shade card to:* SNOWCEM SERVICE, 14 TOTHILL STREET, LONDON, S.W.I.

# IF YOU WANT BRIGHTER INDUSTRIAL CEILINGS YOU SHOULD KNOW ABOUT *Paramount* PLASTIC FACED PLASTERBOARD

Brighter ceilings mean higher morale . . . increased production . . . less maintenance. How to erect one? Simple—contact British Plaster Board. They've a ready-made, colourful solution. In fact they've written some interesting literature on the subject. Send for your copy NOW!



THE BRITISH PLASTER BOARD (Manufacturing) LTD. Ferguson House, 15-17 Marylebone Road, London, N.W.1.
AP217

# WHEATLY triton QUARRIES

## meet every purpose for which quality quarries can be used

**For Floors**
in Industrial, Domestic, School and other buildings
**For Non-Slip Floors**
in Sugar Refineries, Breweries, Dairies and the like
**For Acid and Alkali Resisting Floors**
in Dairies and Industrial Buildings
**For Window Bottoms, Skirtings, Cappings**
and other specialised uses in housing and commercial and industrial buildings

*The following publications are available on request:*

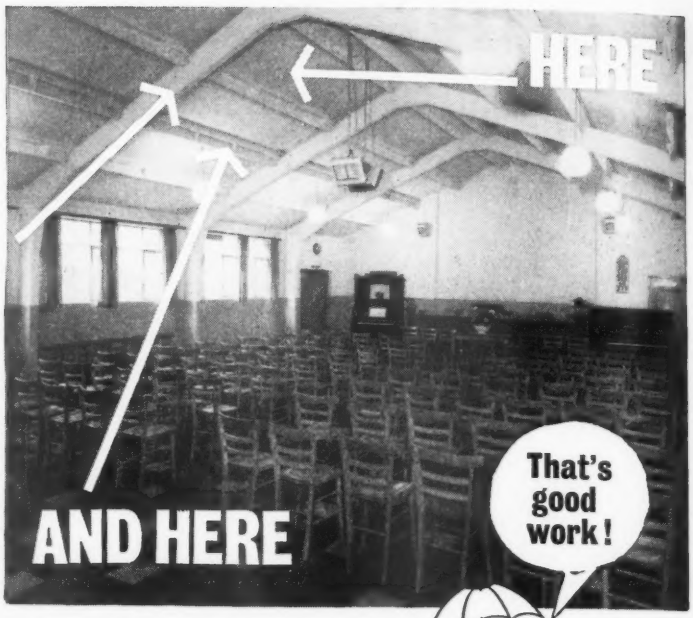
| | | |
|---|---|---|
| Floor Quarries - | - | Stock Patterns and Fittings. Leaflet No. 5<br>Fully illustrated accounts of manufacture<br>Booklet No. 53<br>Reports on Independent Tests |
| Acid Resisting Floors | - | Leaflet No. 49 |
| Window Bottoms | - | Leaflet No. 51 |

*Specimens of Wheatly 'triton' floor quarries, air bricks and single-lap roofing tiles may be seen at the Building Centre, London. Other products include ridge tiles (blue and red) and Briquette fireplaces.*

WHEATLY
triton

W H E A T L Y & C O M P A N Y · L I M I T E D
Springfield Tileries, Trent Vale, Stoke-on-Trent
Telephone: Newcastle (Staffs) 66251 Telegrams: Wheatly Trentvale
WH95

# SECULATE PREVENTS CONDENSATION HERE




THE LONDON CITY MISSION HALL AT BERMONDSEY is protected with Seculate Anti-Condensation Compound. Since the building, a solid brick construction on pre-fabricated trusses, was only intermittently heated, condensation was most severe. The trusses, purlins and ceilings were treated with Seculate, which has once again given a satisfactory answer to this problem of humidity and condensation. Other of our products, including Welbrand Decorative Paints, were used on the remaining surfaces of the hall. For further details of these products, or for a visit by one of our technical representatives, write now to the address given.

## SECULATE ANTI-CONDENSATION COMPOUND

and Welbrand Industrial and Decorative Paints of all kinds

Seculate Ltd., 7-8-9 St. James's Street, London, S.W.1

A MEMBER OF THE FIRTH CLEVELAND GROUP

CRC 255C

---

AN IMPORTANT ADVANCE IN FLUSH DOOR TECHNIQUE

# V.S.F.

*"Velvet Seal Finish"* — THE NEW PLYWOOD SURFACE SEALING PROCESS DEVELOPED AND USED EXCLUSIVELY BY **LEADERFLUSH** FOR ALL FLUSH DOORS WHICH ARE TO BE POLISHED OR VARNISHED

NO SANDING NO FILLER REQUIRED ONE COAT ONLY OF POLISH OR VARNISH NEEDED • MOISTURE RESISTANT • IMPERVIOUS TO HANDLING MARKS ON SITE AND IN TRANSIT • FASTER SITE PROGRESS • BIG SAVING IN COSTS

***V.S.F. is applied at no extra cost***

*Used exclusively on* **Leaderflush**

*Illustrated folder sent on request* **BRITAIN'S FINEST FLUSH DOORS**

LEADERFLUSH (DOORS) LTD., TROWELL, NOTTINGHAM. Telephone: Ilkeston 623 (5 lines)

LONDON OFFICE: BUSH HOUSE, ALDWYCH, W.C.2. Tel: COVent Garden 2243

*From Britain's most go-ahead paint manufacturers*

# THREE BROLAC PACE-SETTERS

**Brolac P·E·P**

*—the only 'GO-ANYWHERE' emulsion paint*

This paint is already an outstanding success only six months from its introduction. This is because it lives up so well to the remarkable claims made for it—that it can be used IN ANY ROOM and ON ANY SOUND SURFACE, glossy or flat, OUTSIDE and INSIDE. The extra adhesion that Brolac P.E.P. derives from its unique Vinyl Co-Polymer base means that this emulsion paint is suitable for use even in kitchens and bathrooms and on outdoor surfaces. It can also be used over high gloss enamel without the need to rub down.

**Brolac** GLOSS ENAMEL

Brolac Gloss Enamel is based on a well-proven Pentaalkyd modified with Tung Oil. This produces a tough and tenacious film with outstanding water- and weather-resisting properties—it will withstand condensation and the effects of salt water and corrosive atmospheres. Brolac flows easily and smoothly under the brush and dries with a hard, china-like gloss. It can be applied coat-on-coat or over Brolac undercoat.

**Brolac** COLORVOGUE

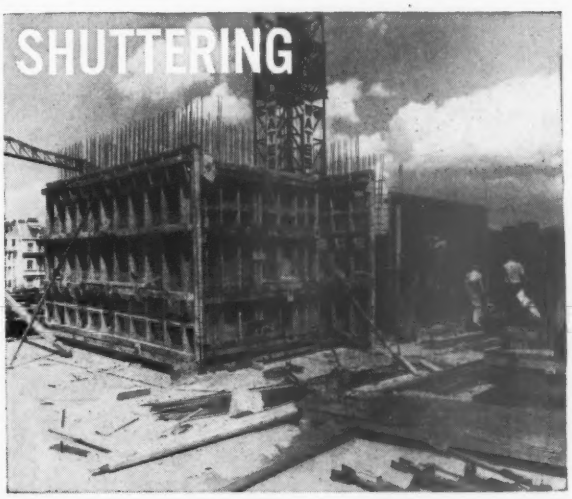
*—plus the John Hall Technical and Colour Service*

Both Brolac P.E.P. and Brolac Gloss come in complementary trade colour ranges as well as the recommended BS.2660 shades. These colours are augmented by 100 attractive Brolac Colorvogue tints. Colour and specification problems should be referred to the John Hall Technical and Colour Advisory Bureau at Bristol—whose colour schemes have a high rate of acceptance from specifying authorities.

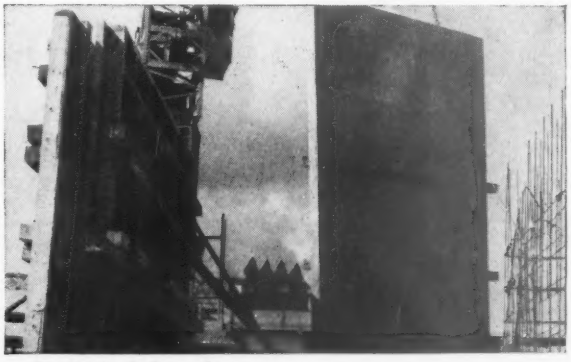
**John Hall & Sons (Bristol & London) Ltd.**

Hengrove, Bristol 4. 1-5 St. Pancras Way, NW1. 26 Park Row, Leeds 1.

# CANADIAN FIR PLYWOOD




Canadian Douglas Fir Plywood is rapidly gaining ground as the ideal shuttering material. It gives greater design freedom because the waterproof glue fir plywood panels are easy to handle. It cuts costs because it saves labour—reduces complicated joinery to a minimum. Fir Plywood can be reused again and again because it is rugged material that stands up to the toughest conditions.



*Technical data free*

The Canadian Fir Plywood Technical Service is available to architects, engineers, and contractors anywhere in the United Kingdom. The technical handbook "Douglas Fir Plywood Concrete Form Work" and the "Industrial Fir Plywood Handbook" are available, free of charge.

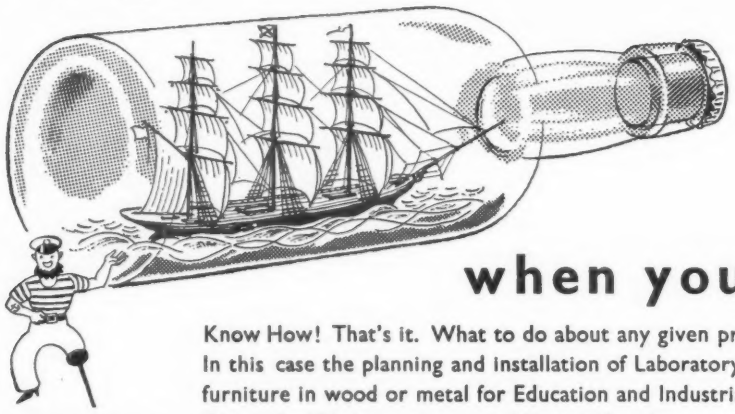
# CANADIAN DOUGLAS FIR PLYWOOD

*For technical data or advice in every aspect of the use of Fir Plywood write to*
**PLYWOOD MANUFACTURERS ASSOCIATION OF BRITISH COLUMBIA**
*4 Carmelite Street, London, E.C.4.*

*FIR PLYWOOD MARKED*
PMBC EXTERIOR
*HAS WATERPROOF GLUE*

6O-PA-3

# Nothing to it...



## when you know how

Know How! That's it. What to do about any given problem. In this case the planning and installation of Laboratory furniture in wood or metal for Education and Industrial Research. We have put more ships into bottles than we can count.

Griffin

# GRIFFIN & GEORGE

*Manufacturers of Laboratory Furniture*

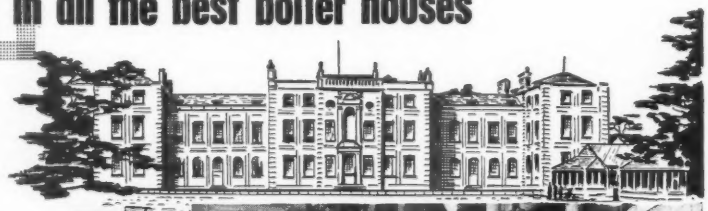
GRIFFIN & GEORGE (LABORATORY CONSTRUCTION) LIMITED

A member of the Griffin & George Group of Companies, in association with Grundy Equipment Limited

Sales Offices and Joinery Works, Morden Road, Mitcham, Surrey, *Mitcham 9201;* Walsall Road, Perry Barr, Birmingham 22B, *Birchfields 5002.*

---

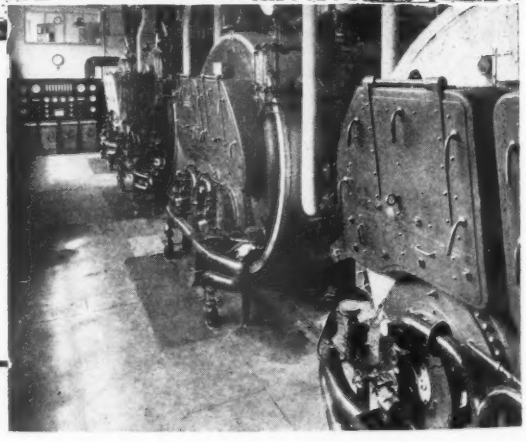
# ROTAVAC in all the best boiler houses



*Photos by courtesy of Queen Mary's (Roehampton) Hospital. Boiler plant includes four Marshall Three-pass Economic boilers each fired with two Rotavac No. 3 WSF Burners.*

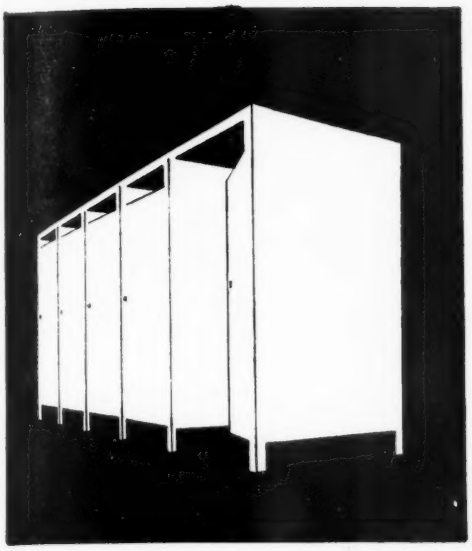
Hospital service calls for the utmost in efficiency and reliability – service that the world of public undertakings and industry has learnt to expect from Rotavac oil-firing. Rotavac provides high efficiency atomisation with minimum maintenance (no moving parts), perfect flame form, automatic control and the economy of the cheapest liquid fuels. Backed by nation-wide spares and after sales service.

ROTAVAC
OIL BURNER
TYPE WSF



## NU-WAY HEATING PLANTS LTD. (Box B222), DROITWICH

and at: LONDON, MANCHESTER, NEWCASTLE, GLASGOW, BELFAST, DUBLIN, BRISTOL



# important necessity

The factory built prefabricated units clip and bolt together quickly and easily to form a rigid fixture. The construction is so simple that your own labour can be used if you wish.

Finish is epikote white for super rust proofing and hygiene. Panels are insulated to prevent drumming.

Send for Specification Sheet, or ask for our technical representative to call.

# SPEEDWELL

GEAR CASE CO. LTD.

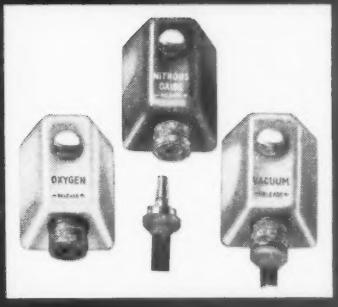
**Tame Road, Witton, Birmingham 6**
**Tel.: EASt 2261**
**Grams: Speedwell, Birmingham**

---

**British Oxygen Equipment and Gases...**

# Pipelines for Medical Gases

In modern hospitals piped supplies of medical gases are now an essential part of routine efficiency. They enable medical gases to be used immediately in wards, operating theatres and any other part of the hospital, without transporting cylinders from place to place. Increased safety and lower gas costs are additional advantages of installing pipelines. For details of the design and installation of pipelines, please write to British Oxygen Gases Limited, Medical Division, Great West Road, Brentford, Middlesex.




**...used every day to ease pain and save lives**

**BRITISH OXYGEN**

BOC

USE THE
**BUILDING CENTRE**
for all your problems relating to building materials and equipment

•

LUNCHTIME FILM SHOWS
— *Apply for particulars* —

•

*Call, write or telephone*
**Open – Monday to Friday**
**9.30 a.m. – 5 p.m.**
**Saturday – 9.30. a.m. – 1 p.m.**

**26 Store Street,**
**LONDON, W.C.1**
Telephone: Museum 5400 – 10 lines

**MODELS**
for Architects & Civil Engineers
by
***John B. Thorp***
*EST. 1883*
98 GRAY'S INN ROAD, LONDON, W.C.1. Tel.: HOLborn 1011

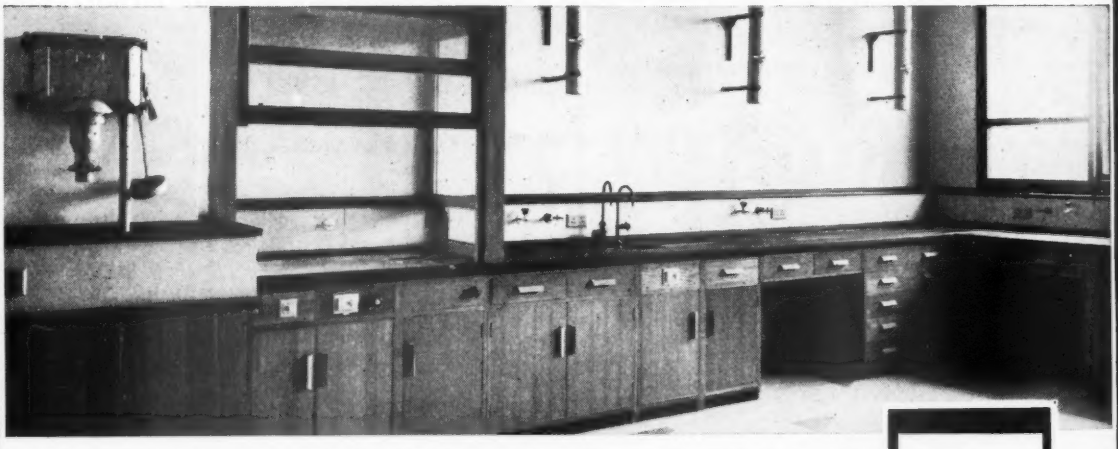
**THE POLYTECHNIC**
**309 Regent Street, W.1.**
**SCHOOL OF ARCHITECTURE SURVEYING AND TOWN PLANNING**
*Head of the School:*
John S. Walkden, F.R.I.B.A., M.T.P.I.

**TOWN PLANNING**
The School offers a post-graduate course of three years of evening study leading to the Diploma in Town Planning of The Polytechnic and exemption from the Final Examination of the Town Planning Institute. The next course will commence in September.
The course is open to students who have passed or gained exemption from the Intermediate Examination of the Town Planning Institute. Before being admitted to the course, applicants will be required to attend for interview with the Head of the School.
Information regarding fees, entrance qualifications, etc., can be obtained on application to the DIRECTOR OF EDUCATION.

*FOUNDED 1882*
THE INSTITUTE OF CLERKS OF WORKS OF GREAT BRITAIN INCORPORATED
*Meetings are held at 66 Portland Place, London, W.1 by permission of the Council of the Royal Institute of British Architects*
*Chapters* - Belfast, Edinburgh, Leeds, Manchester and Birmingham
*Examinations* - are held at London, Edinburgh, Belfast and Manchester
Architects, Surveyors and Engineers requiring Clerks of Works, write The Secretary, Liverpool House, 15-17 Eldon Street, London, E.C.2
Phone: London Wall 2932

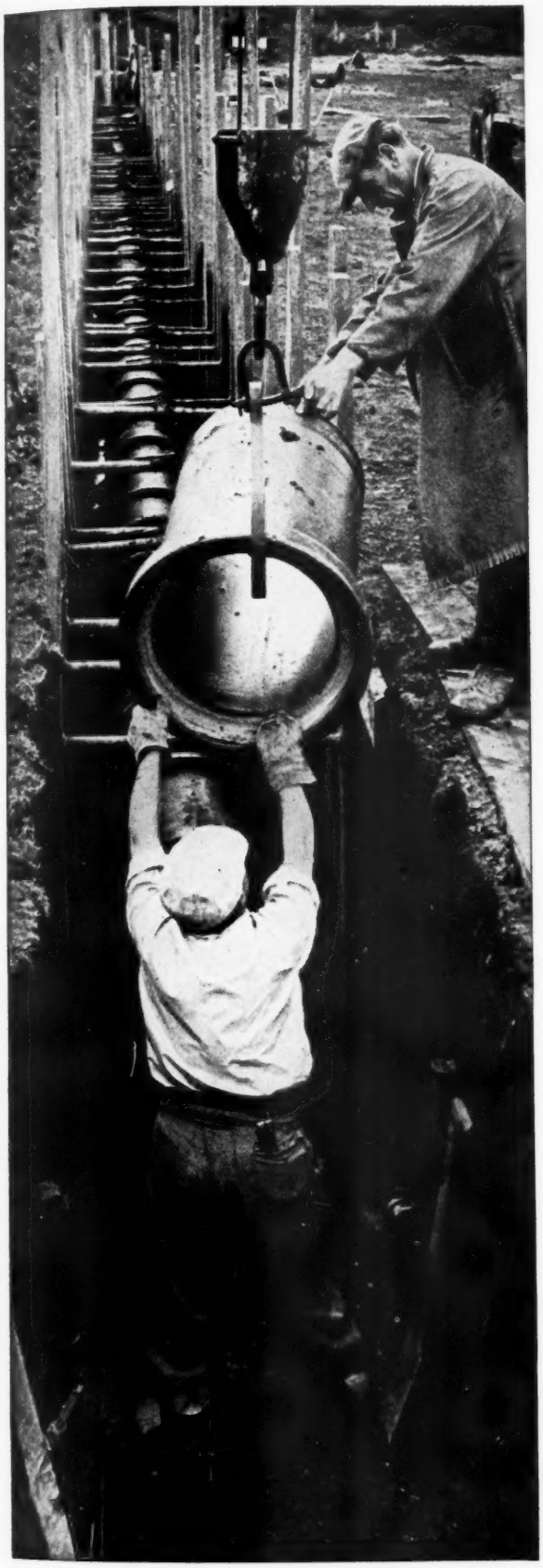
**DYE-LINES, BLUE PRINTS, STATS., ETC**
Tracing and Drawing Office Supplies
**KINGSTON PHOTOGRAPHIC AND DRAWING OFFICE SUPPLIES LIMITED**
*Works:* 32–34, Fairfield Road, Kingston-on-Thames *Tel: KIN* 3911 & 6094
*Retail:* 3, The Parade, London Road, Kingston-on-Thames *Tel: KIN* 6726

**Laboratory Furniture designed for maximum efficiency**



This is one of the new laboratories of the Laporte Titanium Co. Ltd., Stalingborough. The company specified furniture by the specialists in this field, Cygnet Joinery. They knew the Cygnet service would save considerable trouble and make for optimum efficiency in the end product. Cygnet laboratory furniture, craftsman-made and specialist-designed, comes in a wide standard range, or as specified. An experienced technical staff is ready to advise you on laboratory design and layout. *Send now for full details*

**CYGNET JOINERY LTD · HIGHER SWAN LANE · BOLTON · Telephone: Bolton 10140 (10 lines)**



# Glazed Vitrified Clay Pipes

Drainage Pipes must be strong and smooth. They must resist the effects of abnormal pressures and of abrasives. They must be proof against acid-forming gases inside the pipes and acidic substances in the soil. They must have a low and non-progressive rate of absorption. They must retain their shape indefinitely. They must stay down—maybe for centuries.

Nobody knows what virulent effluent future industrial development may introduce into today's drains.

There is only one safe choice. Put down **Glazed Vitrified Clay Pipes**—there is no adequate substitute.

*For information write to The Secretary*
**NATIONAL SALT GLAZED PIPE MANUFACTURERS' ASSOCIATION**
Hanover Court, Hanover Square, LONDON, W.1.
*Telephone MAYfair 0364.*

GLAZED VITRIFIED CLAY PIPES

12

With profusion of colour and diversity of pattern at your command, imagination soars to new heights. Using Barry's Ruboleum, you have greater scope and more freedom to express your floor covering ideas. The exact effects you have in mind are soon translated into satisfying reality.

Doubly satisfying, in fact, because your creative skill is backed by down-to-earth fitness of purpose—for Barry's Ruboleum is the aristocrat of all floor coverings—distinctive, economical, durable, resilient, quiet, kind to the feet, easy to clean and maintenance-free for many years.

*Ruboleum is obtainable in 3 gauges—6·7 mm, 4·5 mm and 3·20 mm.*

* Specify Barry's Ruboleum for your next project and note the difference. Simplify selection by writing for our Colour Harmony Book containing specimens of Ruboleum specially blended to harmonise with B.S. Colour Range 101.

ideas take wing...

BARRY'S LINOLEUM
REGD. NAME RUBOLEUM

BARRY, OSTLERE & SHEPHERD LTD., KIRKCALDY, SCOTLAND
AP29

Printed in Great Britain by Unwin Brothers, Ltd., Woking and London
*All communications regarding Advertisements in this Journal should be addressed to the Advertisement Manager, R.I.B.A., 66 Portland Place, London, W.1*
*Telephone: Langham 2271*

## take a long view . . .

Let's face it. If you want to consider initial cost alone, there are cheaper substitutes for Ceramic **Glazed Fireclay** Sanitary Ware. First cost should never be the measure of real value. This is particularly true in the case of any sanitary installation. Ceramic **Glazed Fireclay** is sturdy, solid, strong, reliable and dependable. Its very weight will testify to that. It can never wear out, decay, rot or rust. It is impervious to grease, resistant to acids and easy to clean. And that's where price comes in. When you stop to consider that the durability of Ceramic **Glazed Fireclay** is such that the installation of costly replacements is virtually eliminated you begin to realise that, in the long run, it is not expensive after all. In industry, institutions, hospitals, schools, hotels; in housing schemes or any other project where sanitary installation is in question, take a long view and specify Ceramic **Glazed Fireclay.**

**fireclay**

SANITARY FIRECLAY
TECHNICAL BUREAU
57, GREAT GEORGE ST. LEEDS 1

*A fully illustrated booklet, published in the interest of more and better hygiene and sanitation is available on request.*

SPECIFY SANITARY FIRECLAY WARE FOR **PERMANENT** SATISFACTION

# LAING PROJECT

***Waring House, Bristol***
***Redcliff Redevelopment Area***

Architect: Albert H. Clarke, F.R.I.B.A, A.M.T.P.I.
*Bristol City Architect*

In more than a century of uninterrupted progress John Laing and Son Limited have developed one of the most efficient organisations in the building and civil engineering world.

To every Laing project, whether large or small, are brought the same comprehensive technical resources supported by meticulous advance planning—and generations of practical experience. The name of Laing means high-quality workmanship and completion in the shortest possible time.

**JOHN LAING AND SON LIMITED**
**Building and Civil Engineering Contractors**

GREAT BRITAIN · CANADA · UNION OF SOUTH AFRICA · RHODESIA